To James Jackson M.D.
of Boston Mass. W. J. Bowen.
with the Authors Kind
regards & best wishes
for his prosperity.

RESEARCHES

ON THE

PATHOLOGY AND TREATMENT

OF SOME OF

THE MOST IMPORTANT

DISEASES OF WOMEN.

BY

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LONDON:
S. HIGHLEY, 32, FLEET STREET,
AND WEBB STREET, MAZE POND, BOROUGH.

1833.

C. Ellery Stedman, M.D.
Sept. 5, 1864.

LONDON:
PRINTED BY STEWART AND CO.
OLD BAILEY.

THIS VOLUME IS DEDICATED

By the Author,

TO HIS EARLIEST BENEFACTOR

AND MOST REVERED FRIEND,

SIR GILBERT BLANE, Bart. M.D. F.R.S.

WHO HAS, FOR UPWARDS OF HALF A CENTURY,

DEVOTED HIS TALENTS TO

THE ADVANCEMENT OF MEDICAL SCIENCE.

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PART I.

ON PUERPERAL FEVER

AND

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CHAPTER I.

INTRODUCTORY OBSERVATIONS ON THE PATHOLOGY OF PUERPERAL FEVER.

The term "puerperal fever" has been employed for upwards of a century, to designate the most fatal inflammatory disease to which child-bed women are liable. The name is now generally adopted by medical writers, and is considered to be synonymous with the terms, Puerperal Peritonitis, Child-bed Fever, Peritoneal Fever, or the Epidemic Disease of Lying-in Women.

The records of medicine afford indubitable evidence, that puerperal or child-bed women have, from the most remote periods of antiquity, been liable to attacks of this destructive affection. In the works, however, of the earlier authors, its history is short and imperfect: and, it is probable, that the disease did not attract the particular attention of physicians, before the middle of the seventeenth century, when it oc-

curred as a malignant epidemic in the lying-in wards of the Hotel Dieu. Since that period, it has often occurred in the principal cities and lying-in hospitals of Europe.

Most vague and contradictory opinions have hitherto prevailed respecting the nature and treatment of this disease. Inflammation of the peritoneum, omentum, or other of the abdominal viscera, has by some been considered as the cause of all the phenomena; and copious blood-letting and cathartics have been recommended for the treatment. Other writers, who refer all the local and constitutional symptoms to a specific fever, peculiar to women in the puerperal state, deprecate the employment of venesection, and urge the necessity of employing the most powerful stimulants and cordials. The morbid sensibility of the hypogastrium, usually observed at the commencement of the attack, and the changes of structure from inflammation often discovered after death, both in the uterine and other organs, have been considered by them as the consequences of this idiopathic fever, in like manner as inflammation of the brain, lungs, or intestines, often supervenes during the progress of typhus.

Those who have most attentively perused the works of Drs. Hulme, Leake, Denman, Walsh, Gordon, Joseph and John Clarke, Hamilton, Hey, Armstrong, Douglas, Campbell, Mackintosh, and Cusack, must have felt convinced that the pathology of puerperal fever required a more careful investigation than had been made by any of these distinguished authors. To reconcile their discordant statements, with respect to the nature and treatment of the affection, it appeared to me requisite, that it should be examined not only in hospitals, but also in private practice, for several successive years, throughout all the different seasons. In this manner only did it seem possible to ascertain, whether diseases had been described essentially dis-

tinct from one another, or merely varieties of the same affection, modified perhaps by some powerful, but unknown causes.

From the 1st of January 1827, to the 1st of October 1832, one hundred and seventy-two cases of well-marked puerperal fever came under my immediate observation in private practice, and in the British Lying-in Hospital and other public institutions in the western districts of London. The symptoms and progress of these cases were watched with close attention; the effects of the different remedies employed were observed, and where death took place, I carefully examined the alterations of structure in the uterine and other organs.

Of fifty-six cases which proved fatal, the bodies of forty five were examined, and in all were found some morbid change, decidedly the effect of inflammation, either in the peritoneal coat of the uterus, or uterine appendages,—in the muscular tissue, in the veins,—or in the absorbents of the uterus, accounting in a most satisfactory manner for the constitutional disturbance observed during life. The peritoneum and uterine appendages were found inflamed in thirty-two cases; in twenty-four, there was uterine phlebitis; in ten, there was inflammation and softening of the muscular tissue of the uterus; and in four, the absorbents were filled with pus. These observations are therefore subversive of the general opinion now prevalent, that there is a specific, essential, or idiopathic fever, which attacks puerperal women, and which may arise independent of any local affection in the uterine organs, and even prove fatal without leaving any perceptible change in the organization of their different textures. As the constitutional symptoms thus appear to derive their origin from a local cause, it would certainly be more philosophical, and more consistent with the principles of nosological arrangement, to banish

entirely from medical nomenclature the terms, puerperal and child-bed fever, and to substitute that of uterine inflammation, or inflammation of the uterus and its appendages in puerperal women. Puerperal peritonitis and peritoneal fever, are terms not less objectionable than puerperal fever, for in many fatal cases there is no proof whatever of the existence of any morbid affection of the peritoneum.

All writers state, that in puerperal fever there is exquisite sensibility of the abdomen with pyrexia, and that these are the only characteristic symptoms of the disease. After the inflammatory symptoms of the uterine organs subside, those of collapse follow, as in the last stages of inflammation of the brain, lungs, liver, intestines, and other abdominal viscera: then the abdomen becomes distended and tympanitic, and after death, extensive alterations of structure are found in the uterus and its appendages; the other external and internal organs presenting no morbid appearance. Besides, there is nothing to be remarked in the condition of a puerperal woman, to render her more liable to attacks of typhus-fever than other individuals; and lying-in women, as I had an opportunity of observing in the epidemic typhus, which prevailed in Edinburgh in the years 1816 and 1817, and also during the last six years in this metropolis, are rarely affected with typhus. It is to the uterus, left in a condition, after delivery, in which no other organ can be similarly placed, and rendering it peculiarly liable to attacks of inflammation, that we are to look for an explanation of all the phenomena of puerperal fever.

Until a recent period, the pathological anatomy of the uterine organs in puerperal women had not received that attention which its importance demanded. In the histories of the different epidemic fevers which have prevailed amongst lying-in women since the middle of the seventeenth century, the symptoms and morbid appearances, though

imperfectly described, nevertheless strongly confirm the accuracy of the conclusion, that the whole phenomena, local and general, of these fevers, are to be referred to inflammation of the uterine organs: and that the symptoms vary according as the superficial or the deeper-seated structures of the uterus are affected.

It is stated by Peu, that in 1664 a prodigious number of puerperal women perished in the Hotel Dieu, and that the cause of this mortality was attributed by M. Vesou, physician to the Hospital, to the circumstance of the lying-in wards being situated immediately over those set apart for the reception of individuals who had been wounded. The women were attacked with hemorrhages, and on opening their bodies they were found to be full of abscesses.*

This brief and imperfect account of the disease when first observed as an epidemic, is interesting from this circumstance, that no further notice is taken of it by the French writers during the succeeding hundred and twenty-two years, the whole of which period the lying-in wards of the Hotel Dieu remained contiguous to the wards of the sick and wounded. It is not stated by Vesou whether it was in the uterus, or in the viscera of the thorax, head, or abdomen, that abscesses were observed on dissection; but it will hereafter appear that the formation of abscesses in any part of the body of a woman who has recently been delivered, is one of the strongest proofs of the previous existence of inflammation in the deeper seated textures of the uterine organs.

The winter of 1746 at Paris was most destructive to puerperal women, and they died between the fifth and the seventeenth day after their confinement. The epidemic attacked the indigent, but much less frequently those delivered at their own habitations, than in the Hotel Dieu

* Peu, Pratique des Accouchemens, p. 263.

Of twenty women in child-bed affected with the disease in February of that year, in the Hotel Dieu, scarcely one recovered.*

M. Malouin has given the following history of the symptoms and progress of this epidemic. "The disease usually commenced with a diarrhœa; the uterus became dry, hard and painful; it was swollen, and the lochia had not their ordinary course; then the women experienced pain in the bowels, particularly in the situation of the broad ligaments; the abdomen was tense; and to all these symptoms were sometimes joined pain of the head, and sometimes cough. On the third and fourth day after delivery the mammæ became flaccid. On opening the bodies, curdled milk was found on the surface of the intestines, a milky serous fluid in the hypogastrium, a similar fluid was found in the thorax of certain women, and when the lungs were divided they discharged a milky or putrid lymph. The stomach, the intestines, the uterus, when carefully examined appeared to have been inflamed. According to the report of the physicians, there escaped clots on opening the vessels of this organ."

"This terrible disease," says M. Tenon, "has shown itself at different epochs, and its returns have been more frequent then ever; it re-appeared every winter from 1774; it commenced usually about the middle of November, and continued till the end of January. It is met with also at the other seasons of the year, even during spring, for it has come to prevail more and more, and to be as it were naturalized.*

"Those who were attacked in the years 1774 and 1775 died between the fourth and seventh days after delivery, and seven out of every twelve women who were delivered

* Memoires de l'Academie des Sciences pour l'année 1746.

† Memoires sur Les Hopitaux de Paris, p. 243.

were seized with the disease. Two distinct forms of it were successively observed; one, a simple form, which was cured by ipecacuan; the other, a complicated form, for which there was no remedy: so that there perished in 1816, one of every seven of those who were attacked with puerperal fever, and death took place from the sixth to the eighth day after delivery, and often much earlier.

"The first symptoms manifest themselves twenty-four, thirty-six, or forty-eight hours after delivery, and sometimes, but rarely, in the space of twelve hours. The symptoms of the simple puerperal fever are developed in the following order:—rigor, slight pain in the region of the kidnies, intestinal colic, which in two hours affects the whole hypogastrium, and gradually becomes more acute. Pulse concentrated, fever moderate, lochia not suppressed; mammæ flaccid, tongue dry in the middle, covered with a yellow mucus on the edges: hiccup, and vomiting of green-coloured matters. There was sometimes combined with these constant and characteristic symptoms of the disease which occurred in the years 1774 and 1775, a diarhœa of a bilious glairy matter, a considerable swelling of the hypogastrium, thirst, and remarkable retention of urine.

"In the complicated puerperal fever, the pyrexia is more intense, with exacerbations; the tongue is black and dry, the belly is tense, distended and tympanitic, and slightly painful. In some women, the lochia have been either wholly suppressed or only diminished, others have experienced attacks of *ophthalmia;* in some, the respiration was difficult: in general, the blood showed the buffy coat.

"On opening the abdomen, the stomach, the intestines, particularly the small intestines, were inflamed, adhering to one another, distended with air and a yellow fluid matter. The uterus was contracted to its ordinary dimensions, and was seldom inflamed. I had occasion to dissect two;

in one, the uterus contained a coagulum of blood; an infiltration of a milky appearance, or whey-like fluid, existed in certain women in the cellular membrane, surrounding the kidneys. Sometimes also a thick, white, cheesy matter, was met with. When the lungs were gorged with blood, or inflamed, or emphysematous, an effusion of serum was found in each side of the chest. We did not observe the hemorrhages which occurred in the epidemic of 1664, and the uterus was not found dry, hard, and tumified as in that of 1746. In the epidemic of 1774, the lochia flowed, but they did not flow in 1746."

From 1782 to the present time, the same fatal disorder has appeared at different times in the Maternitè at Paris, and in many of the continental lying-in hospitals, and the same morbid appearances have always been observed on dissection.

The bodies of fifty-six women were examined who had died of puerperal fever in the general hospital at Vienna, in the autumn of 1819, and in all of these, with the exception of two, where delivery had taken place a considerable time previous to death, effusions of sero-purulent fluid were found in the abdominal cavity, and traces of inflammation in one or more of the abdominal viscera. The ovaria and fallopian tubes were always more or less swollen, red, and tender, and the body of the uterus was, in consequence of inflammation, flabby, tender, and easily broken down with the finger. It is also stated in the report of this epidemic, that the accession of fever is always preceded by marked changes in the whole system, particularly in the uterus, clearly indicating an inflammatory state. The symptoms indeed were such, that the inflammation combined with high fever could not be mistaken.*

* Medical Annals of the Austrian States, 1822.

Pinel, Bichat, Laroche, and Gardien found the peritoneum inflamed in so many fatal cases of puerperal fever, that they have considered this disease essentially to depend on inflammation of the peritoneum. A French author, who has subsequently observed the disease, and who entertains the same views of its nature, asserts that nothing can be more absurd, more chimerical, or more contrary to the spirit of analysis and observation, than the idea that there is a fever essential or peculiar to a woman recently delivered.

When we consult the works of the most celebrated writers on puerperal fever in this country, it clearly appears that they all describe the disease as commencing with a sense of soreness, or exquisite tenderness in the region of the uterus; and that where it proves fatal, the appearances on dissection afford unequivocal proofs of inflammation of one or more of the pelvic and abdominal viscera.

Strother, Burton, Millar, and Wallace Johnson, state that the distinguishing marks of the disease are pain of the hypogastric region, abdomen, and loins, and that relief often follows venesection.

Hulme and Leake considered inflammation of the omentum to be the proximate cause of puerperal fever, and the latter suspected, that the whole mass of circulating blood becomes contaminated by absorption of the fluids effused into the peritoneal sac. "Considering," obverves Dr. Leake, "the suppuration of the omentum, and large quantity of purulent fluid in the abdomen afer death, it is easy to see how a secondary fever, which was truly inflammatory at the beginning, may soon become putrid by absorption of that fluid, which, like old leaven, will taint the blood by exciting a putrid ferment in the whole mass, and change its whole qualities into that of its own morbid nature. Some of those who survived, recovered very slowly, and

were affected with wandering pains and paralytic numbness of the limbs, like that of chronic rheumatism. Some had critical abscesses in the muscular parts of the body, which were a long time in coming to suppuration, and when broke, discharged a sanious ichor."*

Dr. William Hunter observes, that on examining the bodies of those who have died from puerperal fever, the viscera and every other part of the abdomen are found to be inflamed. There is a quantity of purulent matter in the cavity of the abdomen, and the intestines are all glued together.

Pain of the head and abdomen with fever, were the symptoms which Dr. Lowder considered to be pathognomonic of the disease; and redness of the peritoneum, adhesion of the intestines, effusion of serum mingled with pus and lymph, the most frequent morbid appearances.

The history of the symptoms and the morbid changes of structure, described by Drs. Joseph Clarke, Gordon, Campbell, Mackintosh, Douglas, and other writers is nearly the same: and Professor Hamilton, who believes that puerperal fever, is a fever sui generis, nevertheless admits that the appearances on dissection are exactly similar to the decriptions generally given by those authors, and that acute pain of the abdomen is a primary, and not a secondary symptom of the disease. Dr. Hamilton affirms, that puerperal fever is a disease of a "putrid" nature, requiring for its treatment, wine, volatile alkali, cinchona, and animal jellies; and yet, in direct opposition to these theoretical views, and as if involuntarily led by the symptoms, to a correct conclusion respecting the true character of the affection, he has laid down as the first indication of treatment, to moderate local inflammation by purging and hot fomentations.

* Leake on Child-bed Fever, &c. Vol. ii. pages 90—92.

It is a singular circumstance that in none of the works now referred to, has the most remote allusion been made to inflammation of the veins, absorbents, or any of the other structures of the uterus, except the peritoneal covering, though several authors have accurately described the symptoms which characterise their morbid states.

In the epidemic fever which prevailed at Aberdeen, between the years 1789 and 1792, Dr. Gordon examined the bodies of three patients, and in each case, the peritoneum and uterine appendages were inflamed. "The omentum," he observes, "does not appear to be more especially affected, than the other productions of the peritoneum, which are all equally and indiscriminately affected. The dissections which I have made, prove that the puerperal fever is a disease which principally affects the peritoneum and its productions, and the ovaria. The peritoneum was inflamed, and the omentum, mesentery, and peritoneal coat of the intestines, were all promiscuously affected." Venesection and cathartics were found to be the most powerful remedies.*

Dr. Joseph Clarke states, in his Observations on the Puerperal Fever which appeared in the Dublin Lying in Hospital, in the years 1774, 1787, and 1788, that the symptoms of this fever corresponded with what Dr. Hulme had previously so well described. "It always began," he says, "with a distinct chilliness, or shivering. The pain in the cavity of the abdomen was not more frequent in one part than another. Little or no vomiting appeared in any stage of the disease; no delirium; no unequivocal marks of putrescency in any part of the system. The pulse in general beat from 120 to 140 strokes in a minute. The lochial discharge and secretion of milk were not subject to any general law."

* Treatise on the Epidemic Puerperal Fever, 1795.

" In all our dissections the peritoneum appeared every where universally vascular and inflamed. Next to the omentum, the broad ligaments of the uterus, the cœcum and sigmoid flexure of the colon, seemed to suffer most by inflammation. We always meet with more or less of a turbid yellow, and sometimes fœtid fluid, floating among the intestines; coagulated purulent-like masses, adhesive inflammation, glueing the intestines to each other, &c. In no instance did the appearance of inflammation seem to penetrate deeper than the peritoneal coat on any of the viscera of abdomen and pelvis."*

Dr. John Clarke admits that in most cases of true puerperal fever, there has been some degree of inflammation in the cavity of the abdomen, and that the uterus and ovaria sometimes partake of the inflammation. In two cases he found an appearance of pus in the veins of the uterus. The brain was in a natural state. In one instance only was there an appearance of disease in the chest. The effusion of sero-purulent fluid into the sac of the peritoneum was so disproportioned, however, to the degree of inflammation, that he supposed it arose from another cause. Pathologists are now agreed, that these copious effusions into the peritoneal sac, are invariably the result of acute inflammation, and not of any peculiar disposition of the vessels of the part, as Dr. Clarke had supposed.†

The works of Dr. Armstrong and Mr. Hey contain the histories of two epidemics, in which the leading symptoms were those which are present in cases of abdominal inflammation, and the employment of copious blood-letting, cathartics, and other antiphlogistic remedies was attended with decided advantage. The actual condition of the ute-

* Medical Commentaries, 1790, p. 299.

† Essays on the Epidemic Disease of Lying-in Women, by J. Clarke, M.D.

rine, and other organs, was not, however, ascertained by either of these writers, as they were not permitted to examine the bodies of any of those who were cut off with the disease.

The more recent works of Drs. Campbell and Mackintosh may also both be referred to, in confirmation of the truth of the pathological doctrines we shall endeavour to establish; and the statements of Dr. Gooch, if carefully examined, will be found to support rather than to weaken the force of our conclusions. As a substitute for the ordinary names, child-bed fever, puerperal fever, and peritonitis, he has employed the term peritoneal fever, "to express the fact that an affection of the peritoneum is an essential accompaniment of the disease, without defining what that affection is, because it is not uniform." This term, peritoneal fever is, perhaps, the least appropriate of all the terms that Dr. Gooch could have invented; for he admits, that the disease may occur in its most exquisite form, and yet leave few or no traces in the peritoneum after death, by which we might have been enabled to determine, that this membrane had previously been the seat of the disease.

"The most remarkable circumstance," Dr. Gooch observes, "which the experience of the last few years has taught us about peritoneal fevers is, that they may occur in their most malignant and fatal form, and yet leave few or no vestiges in the peritoneum after death. The state of this membrane, indicated by pain and tenderness of the abdomen, with a rapid pulse, appears to be not one uniform state, but one which varies so much in different cases, that a scale might be formed of its several varieties; this scale would begin with little more than a nervous affection, often removable by soothing remedies, and, when terminating fatally, leaving no morbid appearances discoverable after death. Next above this, a state in which this nervous

affection is combined with some congestion, indicated, in the cases which recover, by the relief afforded by leeches, and in the cases which die, by slight redness in parts of the peritoneum, and a slight effusion of serum, sometimes colourless, sometimes stained with blood. Above this, might be placed, those cases in which there are in the peritoneum, the effusions of inflammation without its redness; namely, a pale peritoneum and no adhesions, lymph like a thin layer of soft custard, and a copious effusion of serum, rendered turbid by soft lymph. Lastly, the vestiges of acute inflammation of the peritoneum, viz., redness of the membrane, adhesion of its contiguous surfaces, a copious effusion of serum, and large masses of lymph."*

Dr. Gooch affirms, that symptoms and dissections cannot settle the question respecting the pathology of puerperal fever. "The effects of remedies on a disease," he says, "if accurately observed, form the most important part of the history. They are like chemical tests, frequently detecting important differences in objects which previously appeared exactly similar. Symptoms and dissections can never do more than suggest probabilities about the nature of a disease, and the effects of a remedy on it. A trial of the remedies themselves is the only conclusive proof."

I might confidently appeal to the works of all the most eminent writers on puerperal fever, since the middle of the seventeenth century, to prove that this opinion is equally erroneous as it is dangerous; and it would be easy to shew, from the contradictory statements they have made of the results of the various modes of treatment adopted during the last fifty years, that we must have for ever remained ignorant of the true nature of the disease, had we reasoned

* An Account of some of the most Important Diseases peculiar to Women, by Robert Gooch, M.D. 1831.

from the effects of remedies alone, without investigating symptoms, and the morbid changes of structure.

That a diffused pain of the abdomen, with a rapid soft pulse not unfrequently occurs, without inflammation of the uterus or of any other part, or with a very slight degree of inflammation in delicate nervous women ofter parturition, and that these symptoms are relieved by opiates and warm fomentations, without either general or local blood-letting, will readily be admitted by all who are conversant with the diseases of the puerperal state. That such cases are, however, if not essentially different in their nature, at least widely different in degree of severity from cases of sporadic or epidemic puerperal fever, or uterine inflammation, is clearly demonstrated by the following observation of Dr. Gooch. "There seemed to be nothing dangerous in this form of disease, provided the nature of it was not mistaken, and improper remedies not used; yet it so strikingly resembled peritoneal inflammation, that it was invariably taken for it by the practitioners who witnessed it, all of whom possessed at least that average quantity of sense and knowledge on which the public must extensively depend."

There can be little doubt that in numerous instances, the irregular spasmodic contractions of the uterus constituting after-pains, and irritation of the intestines, have been mistaken by superficial observers for puerperal fever, but such mistakes do not prove the identity of the affections. The results of the practice in the Westminster Lying-in Hospital in the years 1828 and 1829, referred to by Dr. Gooch, demonstrate that the cases described by him under the term peritoneal fever, were not genuine examples of low child-bed fever, as he has maintained; for of twenty-eight women who were attacked with the disease, and most of whom were treated as he had recommended, with Dover's powder and warm cataplasms, seven died, or one in four.

In investigating the morbid anatomy of this class of diseases, Dr. Gooch appears to have been satisfied with simply inspecting the peritoneal covering of the uterus; now I am strongly inclined to believe, that if he had carefully examined the uterine, spermatic, and hypogastric veins, the absorbents, the uterus, and its appendages, and the sub-peritoneal tissues, he would frequently have found acute inflammation or some of its consequences. With the phenomena of inflammation of the deep-seated structures of the uterine organs, he appears indeed to have been perfectly unacquainted, as they are not even alluded to in the course of his Essay, and are generally confounded with the effects of loss of blood. In a fatal case, examined by Mr. Stanley, it is indeed stated by Dr. Gooch, that no inflammation of the veins of the uterus was detected, but the symptoms had not been such during life as to render it probable that such a condition of the veins existed. The absence of increased vascularity of the peritoneum, and of lymph and serum in its sac, does not prove that the subjacent tissues are in a healthy state. That a nervous affection or congestion of the peritoneum should give rise to all the symptoms and consequences of fatal uterine inflammation, is not only highly improbable, but is wholly unsupported by facts. Had Dr. Gooch estimated more correctly the value of pathological anatomy, in investigating the nature of disease, and placed less reliance on the uncertain operation of remedies, he could not possibly have fallen into so many serious practical errors respecting puerperal fever, as well as some of the organic diseases of the uterine organs in the unimpregnated state.

The recent valuable researches of Andral, Luroth, Dance, Danyau, Tonellé, and Dupley, confirm, in a remarkable manner, the accuracy of the views now given of the proximate cause of puerperal fever. In the epi-

demic of 1829, at Paris, numerous opportunities occurred of examining the morbid appearances in those who were cut off by the disease. In one hundred and thirty-two out of two hundred and twenty-two fatal cases, puriform fluid was found in the veins and absorbents of the uterus, and in one hundred and ninety-seven, some important alteration of structure was observed in the uterine organs. In a few rare cases described by M. Tonellé under the term "Ataxic puerperal fever," the changes which had taken place in the uterine organs were comparatively slight, and consisted of an exudation of lymph at the neck of the uterus and into the cavities of the uterine veins. In these cases the symptoms were considerably different from those commonly observed in uterine inflammation, and were probably referable to other causes.

The preceding observations seem to warrant the following general inference which I drew from the observations I had made previous to October 1829, "That inflammation of the uterus and its appendages must be considered as essentially the cause of all the destructive febrile affections which follow parturition, and that the various forms they assume, inflammatory, congestive and typhoid, in a great measure depend on whether the serous, muscular, or venous tissue of the organ has become affected." *

* Med. Chir. Transact. vol. xv. pt. ii. p. 405. 1829.

CHAPTER II.

OF UTERINE INFLAMMATION IN PUERPERAL WOMEN.

I NOW propose succinctly to describe — the various changes produced by inflammation in the uterine organs subsequent to parturition — to point out the local and constitutional symptoms by which these morbid conditions are characterized during life, and distinguished from some other affections to which they bear a resemblance — then to investigate the causes and nature of this disease — and lastly, to describe the treatment adapted to the different varieties of uterine inflammation, and the most important means to be adopted for its prevention.

The following are the principal varieties of inflammation of the uterus and its appendages in puerperal women.

I. Inflammation of the peritoneal covering of the uterus and of the peritoneal sac.
II. Inflammation of the uterine appendages: viz. the ovaria, fallopian tubes, and broad ligaments.
III. Inflammation of the mucous and muscular, or proper tissue of the uterus.
IV. Inflammation and suppuration of the absorbent vessels, and veins of the uterine organs.

These varieties of uterine inflammation may take place independently of each other, though they are most frequently met with in combination. Peritonitis seldom occurs without some inflammation of the uterine appendages; but I have found both these textures severely affected, while the muscular coat of the uterus, and the veins, were wholly exempt from disease. The venous and muscular tissues of the uterus, are also liable to attacks of severe inflammation without any corresponding affection of the peritoneal covering, though it most frequently happens that inflammation, when excited, either in the veins or muscular coat of the uterus, involves also the peritoneum. In the organs of respiration, similar varieties of inflammation are observed, and the pleura, pulmonary texture, and mucous membrane, lining the air passages, may all be separately or simultaneously involved in the same attack. A similar observation may be extended to the brain and its membranes, and to the whole of the digestive organs; and the symptoms which characterize the inflammation of the different tissues of which these organs are composed, have been more accurately determined than formerly by the recent discoveries of pathologists.

Inflammation of the uterine organs, like inflammation of the lungs and other affections of a similar character which assume an epidemic form, occurs more frequently at one season than another, and at one period the peritoneum is the tissue most commonly affected, whilst at other seasons, the deeper seated tissues are almost invariably found affected by the inflammation. That there is no essential difference between these varieties of uterine inflammation is proved by the circumstance, that in the course of a few days, in the same ward of the British Lying-in Hospital, and in patients, who were placed in contiguous beds during the prevalence of the epidemic, when the disease appeared

to be communicated from person to person, peritoneal inflammation, uterine phlebitis, and the other varieties enumerated, all occurred in their most characteristic form. In some patients the local and constitutional symptoms indicated the presence of acute inflammation of the serous covering of the uterus; and in those cases where active depletion was employed at the commencement of the attack, most frequently a speedy recovery took place. In other examples, at the onset of the disease, there was comparatively little pain in the region of the uterus, the pulse was from the beginning rapid and feeble, and the symptoms were such as to contra-indicate the use of blood-letting and cathartics. Such cases usually terminated fatally in defiance of local bleeding and the exhibition of mercury and opium, and other remedies; and on examination after death, either the veins, the muscular structure, or the appendages of the uterus, were found to be the textures most frequently inflamed.

Section I.

Inflammation of the peritoneal covering of the uterus, and of the peritoneal sac.

Great tenderness of the hypogastrium increased by pressure, with pyrexia, are the characteristic symptoms of the disease. In every instance which has fallen under my observation, I have found the uterine region more or less painful on pressure, and there has been febrile disturbance.

When the attack is violent, the patient generally lies upon the back, with the knees drawn up to the trunk of the body. The abdomen at first is soft and flaccid, and except

in the region of the uterus, is frequently not affected by pressure. Though an enlarged and painful state of the uterus is never altogether wanting, yet the pain often undergoes exacerbations similar to after-pains, and is frequently mistaken for these by careless observers; and the true character of the disease is overlooked until a great part of the peritoneal sac is inflamed. The whole abdomen then becomes swollen and tympanitic, and the pain either wholly subsides, or becomes still more intense than at the commencement. Diarrhœa and vomiting of black or dark-green coloured fluids follow, as in other fatal inflammatory diseases of the abdominal viscera, the pulse becomes extremely rapid and feeble, the tongue dry and brown, the lips and teeth are covered with sordes, and death follows at no very remote period.

The manner in which the disease commences varies considerably in different individuals. The attack of pain is sometimes sudden, at other times the ordinary increased sensibility of the uterus, remaining after natural labour, passes insensibly into the acute pain increased by pressure, the chief pathognomonic symptom of this affection. Most frequently the accession of the disease is marked by rigors, partial or general, sometimes so slight as almost to escape notice, at other times so violent as to produce severe shivering of the whole body. The cold stage, after a longer or shorter duration, passes away, and is succeeded by heat of skin, suffusion of the countenance, acceleration of the pulse, and quick respiration, thirst, frequently nausea or vomiting, and vertigo or intense pain across the forehead. Cough is also a common symptom of the disease. The rigors precede, accompany, or follow the increased sensibility of the uterus. In some of the most severe cases there has been no distinct rigor; but a quick pulse, hot skin, and hurried respiration have rapidly succeeded to the

uterine pain. In most of the fatal cases the countenance has, from the commencement, been anxious and pallid, and the extremities cold.

There is no uniformity observable in the appearance of the tongue in puerperal peritonitis. It is sometimes entirely covered with a thin, moist, white, or cream-like film; at other times, it is of a deep red, or brown colour in the centre, with a thick yellow or white fur on the edges.

The lochia, are often entirely suppressed; in other cases, only diminished in quantity. In some instances, they have an offensive odour. The mammæ usually become flaccid; yet, in some fatal cases, the milk has been secreted until a short period before death. The urine is often passed with pain and difficulty.

Diagnosis.—This variety of uterine inflammation, is frequently confounded with disordered states of the intestinal canal, the irregular spasmodic contractions of the uterus, which constitute after-pains, hysteralgia, and simple suppression of the lochial discharge.

In cases of intestinal irritation, or disordered states of the stomach or bowels after delivery, which are not of such frequent occurrence as some writers have represented, the pain is from the commencement of the attack diffused over the whole abdomen; it is rather a griping than acute pain, does not commence in the region of the uterus, and is but little, if at all, aggravated by pressure. The abdomen is generally soft, puffy, and distended. The tongue is loaded; there is thirst and headache; neither the lochia, nor the secretion of milk, are suppressed. The febrile attack is usually preceded by evident signs of derangement of the bowels, such as flatulence, nausea, vomiting, constipation, or diarrhœa. Puerperal peritonitis is developed in a large proportion of cases before the end of the fourth day after delivery, sometimes even within twenty-four hours; whereas this affection rarely appears until the termination of the first week.

It is sometimes difficult to distinguish inflammation of the peritoneum from after-pains and hysteralgia. Where the pulse is accelerated, the remissions of pain incomplete, the lochia scanty or suppressed, and the hypogastrium tender on pressure, we shall arrive at a correct diagnosis, by considering the peritoneal coat of the uterus in a state of congestion and inflammation, and employing antiphlogistic treatment. There are few puerperal women, except those of a feeble and irritable constitution, or who have been previously exhausted by profuse hemorrhage, or some chronic disease, who are seriously injured by cautious depletion, local or general; and where death has followed the abstraction of sixteen or twenty ounces of blood from the arm, the fatal result may fairly be attributed to disease, and to the neglect of the remedy rather than to its abuse. In cases of intestinal irritation, I have often found the local abstraction of blood followed by decided relief: and the same holds true with respect to the severe irregular pains without inflammation, which often occur subsequently to delivery, and do not yield to the ordinary means of treatment.

The peritoneum where inflamed becomes vascular, red, and apparently thickened, and the abdominal viscera adhere to one another by an effusion of lymph, or there is an effusion of a turbid, yellowish white, serous fluid, mixed with shreds of albumen, or pus, sometimes tinged with blood, in greater or smaller quantity, into the cavity of the peritoneum. In some cases the exudation agglutinating the viscera, consists almost entirely of solid lymph, in others, there are only shreds of lymph, mixed with a large quantity of thin serous fluid. The omentum is often of a deep red colour, highly vascular, and closely adherent to the intestines, and sometimes to the fundus of the uterus by lymph. The omentum in some cases is only a little red, and in

others, it is not at all affected. The intestinal canal is frequently found much distended with air, at other times, the sac of the peritoneum.

Puerperal peritonitis commences in the peritoneal covering of the uterus, and extends from thence with greater or less rapidity, according to the severity of the attack, to the whole peritoneum. In some cases the inflammation is confined to the uterus, and it is generally most severe in this situation, or in the parts immediately surrounding that organ, even when it has extended to the other viscera, and affected them most severely, the peritoneum of the uterus invariably exhibits signs of recent inflammation. The lymph is for the most part thrown out in thicker masses upon the uterus than in any other situation, and this viscus seems always to suffer in the greatest degree. In the cellular membrane under the peritoneum, serum and pus are also not unfrequently found deposited. The cellular tissue also, which surrounds the vessels of the uterus where they enter or quit the organ, not unfrequently contains some serous or purulent fluid, and the same appearance has been observed in the cellular membrane, connecting together the muscular fibres.

Section II.

Inflammation of the Uterine Appendages, viz. the Ovaria, Fallopian Tubes, and Broad Ligaments.

In one case only where the peritoneal covering of the uterus has been inflamed, have I found the uterine appendages free from disease; but frequently the peritoneum has been observed slightly affected, when the appendages of the

uterus have been extensively disorganized. The surface of the broad ligaments, ovaria, and fallopian tubes, when inflamed, have in some cases been found red and vascular, and partially or completely imbedded in lymph and pus. The loose extremities of the fallopian tubes have also been found of a deep red colour and softened, and deposits of pus in a diffused or circumscribed form within their cavities, or in their sub-peritoneal tissues. Between the folds of the broad ligaments, I have also observed effusions of serous or purulent fluids. Numerous important changes have likewise been seen in the structure of the ovaria. Their peritoneal surface has been red, vascular, and imbedded in lymph, without any visible alteration of their parenchymatous structure, or their whole volume has been greatly enlarged, swollen, red, and pulpy: blood has been effused into the vesicles of De Graaf, or around them, and circumscribed collections of pus have been found dispersed throughout the substance of the enlarged ovaria. In several cases which have come under my own observation, the entire structure of the ovaria has been reduced to a vascular pulp, all traces of their natural organization being imperceptible.

The ovarium appeared, in one instance which came under my care, to be converted into a large cyst containing pus, which had contracted adhesions with the abdominal parietes, and discharged its contents externally through an ulcerated opening. In another case, which proved fatal, the inflamed uterine appendages, agglutinated together, had contracted adhesions with the peritoneum at the brim of the pelvis, the inflammation having extended to the cellular membrane exterior to the peritoneum, and occasioned an extensive collection of pus, in the course of the psoas and iliacus internus muscles, similar to what takes place in lumbar abscess.

In three other individuals under my care, who ultimately

recovered, the purulent matter formed along the brim of the pelvis made its way under Poupart's ligament to the upper part of the thigh, and escaped through an opening formed in that region. In all of these cases, contraction of the thigh on the pelvis took place, which remained for several months.

Puzos and Levret have both described this variety of uterine inflammation in puerperal women; the former under the term Depot laiteux dans l'hypogastre, and the latter by that of Engorgemens laiteux dans le Bassin. Puzos states, that it is almost always situated between the groin and the anterior superior spinous process of the ilium on one side. In some instances, the humour is deposited under the skin and fat, in others, between the muscles and peritoneum; but the most considerable deposits take place in the cellular texture of the peritoneum, in the ligamenta lata, or in the ovaria. At their first commencement, he observes, they furnish no marks that are obvious to the sight or touch; but there are troublesome pains extending over the belly, and terminating at last in a fixed point. The other symptoms which indicate the formation of these purulent deposits are loss of appetite and sleep; pyrexia, continued or intermittent, with rigors, recurring several times in the course of twenty-four hours. It is only towards the tenth, twelfth, or fourteenth day after labour, that these deposits become perceptible to the touch; and if they are not treated early and vigorously with general and local blood-letting, they end in suppuration. M. Puzos adds, "the suppuration of milky deposits, particularly in the groin, and hypogastrium is always dangerous, exposing the patient to the danger of losing her limb, and sometimes her life." *

* Traité des Accouchemens, par M. Puzos. 4to. Paris, 1759, p. 356.

The observations of MM. Husson and Dance likewise prove, that this is a frequent and often fatal termination of inflammation of the peritoneal coat of the uterus and its appendages.* In a woman who was under the care of Dr. Henry Davies, at the Welbeck-street Dispensary, I found the uterus low down in the pelvis, and it was immoveably fixed to the right side by extensive adhesions, which were clearly referable to a severe attack of inflammation of the peritoneum and right uterine appendages several months before, which occurred a few days after delivery. There is reason to believe that extensive effusion of lymph and serum into the peritoneal sac, sometimes takes place, after attacks of inflammation of the peritoneum, which are followed by recovery. Adhesions of the uterus to the surrounding viscera from inflammation after parturition, are frequently formed, as I have often had occasion to observe, and give rise in after life to abortion and painful displacement of the uterus and its appendages. Madame Boivin and M. Dugés state that anteversion of the uterus is often produced by morbid adhesion of the peritoneal coat of the uterus.†

M. Weidmann has given the description of a case of adherence of the epiploon to the anterior part of the uterus, in consequence probably of a previous inflammation of the uterus after a laborious labour. In a subsequent pregnancy the woman perished about the fourth and a half month of utero-gestation with the symptoms of strangulated bowels.‡ I have recorded the history of an interesting case of a similar description, at the full period, which came

* Repertoire General d'Anatomie, &c. Paris, 1827, tom. 4. p. 74.

† Traité Pratique des Maladies de l'Uterus, et de ses Annexés, tom. 1, p. 134.

‡ Weidmann, Memoria Casus rari, &c. Mons, 1818.

under my observation in the British Lying-in Hospital: Case VI.

Symptoms. — Inflammation of the uterine appendages being generally combined with peritonitis to a greater or less extent, it is often difficult to establish a diagnosis between these varieties of uterine inflammation. The pain is generally less acute than in peritonitis, and is principally seated in one or other of the iliac fossæ, extending from them to the loins, anus and thighs. On pressure, the morbid sensibility will be found to exist chiefly in the lateral parts of the hypogastrium. The constitutional symptoms at the commencement of the attack do not materially differ from those which mark the accession of peritonitis, being often accompanied with strong febrile action, which speedily subsides, and is suddenly followed by prostration of strength and other changes which characterize inflammation of the muscular and mucous tissues of the uterus.

The following fatal cases, with the dissections, have been selected, with the view of further illustrating the phenomena of puerperal peritonitis and inflammation of the uterine appendages.

Case I.—Mrs. Groom, æt. 28, No. 13, Little Coram-street, was delivered of her first child on the 6th March, 1827. On the 8th, great tenderness of the uterine region took place, with suppression of the lochia, and febrile symptoms, which being supposed by her medical attendant to depend on spasmodic contractions of the uterus, were treated with anodynes, and warm fomentations to the hypogastrium. On the 10th, (the fourth day after her confinement, and the first on which I saw her), the abdomen was tympanitic and exquisitely painful on pressure. The pulse 140, and feeble; the extremities cold, counte-

nance haggard. There was incessant vomiting of a dark-green fluid, with diarrhœa, and she died in the afternoon.

Dissection.—Present, Sir David Barry and Mr. Prout. The stomach and small intestines were inflated with gas. The peritoneum, covering the fundus and posterior part of the uterus, was of a bright red colour, and the cellular membrane underneath it in this latter situation, was infiltrated with pus.

The peritoneal coat of the small intestines was highly vascular in different parts, and the surface of the liver was partially covered with lymph. The uterine appendages on both sides were covered with pus and lymph, and the lumbar regions contained about a pint of a wheyish-coloured turbid fluid. The consistence of the spleen was remarkably soft.

Case II.—Elizabeth Marshall, æt. 23, No. 3, Crown Place, Soho. Was attacked on the 4th of March 1827, (the third day after her delivery) with rigors, headache, vertigo, and sense of exquisite tenderness in the hypogastrium and right groin. The milk and lochia soon disappeared; bloodletting was employed on the 8th, and leeches were applied to the region of the uterus, but the tenderness gradually extended over the whole abdomen, which became as large as before delivery, and tympanitic. The pulse was rapid and intermitting. The tongue covered with brown fur, singultus and vomiting of dark coloured matter succeeded, and she died on the twelfth day after the attack.

Dissection.—Present, Sir David Barry and Mr. Prout.—The uterus with its appendages, and the small intestines, were all imbedded in thick masses of lymph and closely adherent to one another. The omentum, colon, and peritoneum, lining the abdominal muscles were vascular, of a deep red colour, and partially coated with false membranes:

about ℥x of sero-purulent fluid were contained in the cavity of the abdomen. The deeper seated tissues of the uterus were healthy.

Case III.—Mrs. Laurens, æt. 42, at No. 5, Cumberland-street, Middlesex Hospital. After a severe and protracted labour, was delivered of a still-born hydrocephalic child on the 12th of February 1828. On the 14th, there was a severe rigor, the lochial discharge was suppressed, and the uterus was felt above the brim of the pelvis, large, hard, and exquisitely painful on pressure. The pulse 120, with great prostration of strength. On the 15th, the pulse was more rapid and feeble, the abdomen tumid, and every where highly sensible. Vomiting of green coloured matter took place, and she died about sixty hours from the period of delivery.

Dissection.—Present Mr. Baker, surgeon to the St. James's Infirmary. The uterus uncontracted, occupied the whole brim of the pelvis; its peritoneal coat, and that of the small intestines and liver, was partially covered with thin false membranes; and two pounds of a brownish coloured fluid, with flakes of albumen and pus, were contained in the peritoneal sac. A fibro-cartilaginous tumour of considerable size was found imbedded in the muscular coat of the uterus. The uterine appendages on the right side were red and vascular, and the ovarium was unusually soft, and about three times the natural size.

Case IV.—Mrs. Tiffin, æt. 32, No. 18, Mercer-street, Long Acre. Delivered on the 7th of July 1829. Labour natural. On the 9th, the uterus was felt above the brim of the pelvis large, and hard, and it was very painful on the slightest pressure; lochia and milk suppressed; pulse 110 and feeble; tongue white; bowels open. Slight relief fol-

lowed the abstraction of fifteen ounces of blood from the arm, and the application of leeches to the hypogastrium.— 10th July. The whole hypogastrium is now exquisitely painful, and the abdomen is swollen. Pulse more frequent. There has been much nausea and vomiting during the night. Bowels open. V. S. ad ℥xxiv. Eighteen leeches to the region of the uterus. 11th. Vomiting continues, abdomen less swollen, and pressure over the region of the uterus produces little uneasiness. Pulse rapid and feeble, respiration hurried, countenance sunk, occasional delirium. The whole surface of the body is now of a deep yellow colour. She became gradually more feeble and died in the evening.

Dissection. — Present, Drs. Sims, Clark, and Williams. The abdomen was distended by a great accumulation of air within the bowels; the peritoneal coat of the small intestines was red, and vascular: the peritoneum of the fundus, and anterior portion of the body of the uterus, was coated with albumen, and the sub-peritoneal tissue in this situation, contained a sero-purulent and gelatinous fluid. From the incisions made into the lower part of the body of the uterus there escaped pure pus, but whether this flowed from the vessels, or muscular tissue, it was not easy to ascertain. Between the folds of the broad ligaments, there was a deposition of a gelatinous and purulent fluid, and both fallopian tubes were of a deep red colour, softened, and their cavities filled with pus. The right ovarium was of the size of a common hen's egg, of a pulpy gelatinous consistence, and its healthy organization entirely destroyed. The whole presented the appearance of a soft, fibrous, vascular pulp; the left ovarium was similarly affected.

Case V.—Mary Ann Hale, æt. 26, was delivered in the British Lying-in Hospital, on the 24th of July, 1829. On

the 26th, she had a severe rigor, which was speedily followed by pain in the region of the uterus, and febrile symptoms. Eighteen ounces of blood were drawn from the arm, which produced but little relief; leeches and other antiphlogistic remedies were employed; the whole abdomen, however, soon became exquisitely tender, without swelling or tension; and death took place on the 29th, (the fifth day after delivery.) Cough, dyspnœa, and pain in the right side of the chest were experienced during the last two days of her life.

Dissection.—The peritoneal coat of the uterus, and uterine appendages, were coated with false membrane; that covering the small intestines, exhibited the usual effects of intense inflammation. Several folds of the ilium were glued together by lymph. The surface of the liver was also coated with albumen, and about two pounds of a whey-coloured fluid were contained in the abdominal cavity. The muscular coat and vessels of the uterus were in a healthy condition. In the left side of the thorax, there were traces of recent inflammation in the pleura, and substance of the lungs.

Case VI.—Elizabeth M'Creevy, æt. 25. Delivered of her first child in the British Lying-in Hospital, on the 29th of August 1829. It was observed, in the second stage of labour, that, during each pain, vomiting of a dark coloured fluid like coffee grounds took place. On the morning subsequent to delivery, the pulse was natural, the abdomen was no where tender on pressure, and the vomiting had not recurred. In the afternoon she was, however, attacked with acute pain of the belly, rigors, and repeated fits of vomiting, and on the following morning the countenance was expressive of great anxiety, and the abdomen was swollen and extremely painful on pressure. The respiration hurried.

Pulse 160, and feeble. Extremities cold. The vomiting continued unabated. Fourteen ounces of blood were taken from the arm; the abdomen was covered with leeches, and calomel and opium were administered every hour. On the 1st of September, all the symptoms were aggravated, and she sunk in the course of the day.

Dissection.—The small intestines, particularly the ilium, were red and vascular, and here and there covered with lymph. A pint and a half of a turbid fluid was effused into the peritoneal sac. The peritoneum of the uterus was covered with florid vessels. The uterine appendages on both sides exhibited the effects of severe inflammation. The omentum forming a tense broad band in front of the intestines, and firmly compressing them, was found adhering at its most depending part to the peritoneum, covering the posterior portion of the cervix uteri. The adhesion of the omentum to the peritoneum did not appear to be recent.

Case VII.—A patient of the Benevolent Institution, residing in Steward's Rents, Long Acre, who had suffered from anasarca and ascites in the latter months of gestation, was confined on the 5th of October 1829. On the 7th, she had an attack of violent pain in the region of the uterus, with pyrexia; dyspnœa and pain in the right side of the thorax, were also experienced at the same time. Copious venesection and leeches to the hypogastrium, were promptly had recourse to; but the tenderness extended to the whole belly, and it became greatly distended and tympanitic. She died on the fifth day after the commencement of the disease.

Dissection.—Present Messrs. Prout and James. The lungs on both sides inflamed, and there was a copious effusion of fluid into the sac of the pleura on the right side. About two quarts of a sero-albuminous fluid of a whey co-

lour were contained in the peritoneum. The small intestines covered with florid vessels, and patches of thin false membrane. The uterus and its appendages were imbedded in thick masses of soft lymph. The muscular coat and veins of the uterus were healthy.

Case VIII. — Mrs. Long, æt. 29, a patient of the British Lying-in Hospital, was delivered, after a natural labour, of her first child, on the 18th of December 1829. Mr. Stone, under whose care she was placed, and to whom I am indebted for the following report, was not called to see her until the 22d, when he found her in a rambling state. The face was flushed; head hot. There was no tenderness, nor enlargement of the abdomen: pulse 130. A small quantity of blood was taken away, which was cupped and buffed. On the 23d, she was considered better. The pulse was not quite so frequent. There was a good deal of rambling, but she had some sleep. More blood was abstracted from the arm. On the 24th, the tongue had become brown and parched; the abdomen greatly distended and painful; the pulse rapid and intermitting. She died on the 25th. The body was removed to No. 14, Gray-street, Manchester-square, where I was permitted to examine it with Mr. Prout on the 29th of December.

Dissection.—The sac of the peritoneum was filled with air. The whole abdominal and pelvic viscera exhibited the signs of acute inflammation. The omentum, red and thickened, had contracted adhesions by a soft yellow lymph, with the small intestines. The small and great intestines, liver, uterus, and its appendages, were all coated with exudations of lymph. The uterine appendages on both sides, were intensely red and vascular, and were more deeply imbedded in lymph than any of the other viscera. The muscular and vascular structures of the uterus were healthy.

Case IX.—Mrs. Gyde, æt. 22, Brewer-street, Golden-square, after a natural labour, was delivered of her first child, on the 26th of June 1830. She continued perfectly well till the 28th, when she was attacked with rigors, suppression of the lochia, and great tenderness in the region of the uterus. V. S. to ʒxii, and leeches to the hypogastrium were employed, and calomel and opium were administered internally, at short intervals, by Mr. Stocker of Welbeck-street, who saw her on the evening of the attack. The symptoms were not, however, relieved by these remedies. The pain extended gradually over the whole abdomen, during the three following days. The pulse became extremely feeble and frequent. The countenance sunk, respiration hurried. Tongue covered with a brown fur. Constant retching and vomiting. Before death, which took place on the 7th of July, (the 11th day after her delivery,) the belly had become enormously distended and tympanitic.

Dissection.—Three or four pints of dark coloured seropurulent fluid were contained in the abdomen. The peritoneal sac and great intestines were distended with a fœtid gaseous fluid. The uterus and its appendages, the omentum, and small intestines, were all imbedded in lymph, and their peritoneal coat exhibited the other signs of having been severely inflamed. Near the fundus uteri on the left side, immediately underneath the peritoneum, was a circumscribed deposit of pus, about the size of a nutmeg. Another abscess, of a similar description, was oberved under the peritoneal coat of the uterus on the left side. The other tissues of the uterus were healthy.

Section III.

Inflammation and softening, of the proper or muscular Tissue of the Uterus.

For several days after delivery, where no disease of the uterus has supervened, its lining membrane is coated with a yellowish brown, dark red, or ash-grey coloured layer of no great thickness, which seems to be formed chiefly of the fibrine of the blood with small portions of deciduous membrane; the os and cervix uteri are at this time of a deep red colour, from blood extravasated under the lining membrane. Where the placenta had adhered, numerous dark-coloured coagula of blood are found to seal up the orifices of the uterine sinuses in the inner membrane, and frequently to extend a considerable distance into these veins. The clots of blood, one extremity of which hangs loose within the cavity of the uterus, are often connected with a large fibrinous coagulum, which entirely fills the fundus uteri, and every where firmly adheres to the inner surface of the organ. The dark-coloured layer, which usually coats the inner surface of the uterus after delivery, has been supposed to be the result of gangrenous inflammation, and has been described as such by some pathologists. This ought not, however, to be confounded with the changes produced by inflammation of the inner membrane of the uterus, when it becomes softened or wholly disorganized like the mucous linings of the stomach and intestines in certain inflammatory affections. In two cases I have met with, the internal membrane was soft and flocculent, and had undergone changes similar in appearance to those which are

produced in it by maceration. In other cases, not only has the internal coat been disorganized, but the muscular tissue to a considerable depth, or even through its entire substance to the peritoneum, has been of a dark purple, greyish or yellowish hue, and so softened in texture as to be torn by the gentlest efforts made in removing the parts from the body. The peritoneum covering the inflamed portion of the muscular coat of the uterus has also been affected, and lymph has been thrown out over its surface as in simple peritonitis, or the peritoneum has become of a yellow, red, or livid colour, where no albumen has been deposited on its surface. The peritoneum has also been softened where the subjacent muscular tissue has been little affected, though more frequently there has been extensive disorganization of this latter tissue without a corresponding lesion of the peritoneum. In some cases the inflammation has affected the greater part of the muscular structure of the organ; in others it has affected only the cervix of the uterus, or the part where the placenta had adhered, and the natural appearance of the muscular fibre has been lost. In other instances, depositions of pus have been observed, either immediately under the peritoneum, or between the fibres of the proper tissue of the uterus.

In the different works on puerperal fever which have been published in this country, this rapid and fatal variety of uterine inflammation has scarcely been noticed, though it has been accurately described by several German and French pathologists. Astruc, Vigarou, and Primrose, state, that the uterus is liable to be attacked with gangrene and sphacelus; and other authors, particularly Pouteau and Gastellier, have recorded cases where gangrene of the uterus followed acute inflammation of the organ.

In 1750 an epidemic attacked many puerperal women, which was characterized by severe abdominal pain and tu-

mefaction of the hypogastrium. On examining the bodies of two of these women, Pouteau states, that the uterus was found very large; the internal membrane was soft and black, and the substance of the parietes was of a livid red colour, and in a gangrenous state. Boer has described this affection under the term putrescence of the uterus, and has observed its frequent occurrence in particular epidemics.* Luroth† and Danyau‡ have more recently published detailed accounts of this destructive disease. Among the two hundred and twenty-two fatal cases of puerperal fever observed by M. Tonellé, in the Maternité at Paris in 1829, there were forty-nine in which the muscular tissue of the uterus was found softened. M. Tonellé states, that "softening of the uterus," after shewing itself frequently in the first half of the year 1829, and particularly about January, disappeared entirely in the months of July and August, which were characterized in a remarkable manner by the frequency of inflammation of the veins. Afterwards it began to rage anew with great violence in September and October, and again disappeared in the last two months, during which time the mortality was inconsiderable.

Boer and Luroth have erroneously described the different degrees of this affection as constituting two essentially distinct diseases. M. Tonellé also states, that the disorder at Paris assumed two different forms, the softening of the uterus properly so called, and the putrescence. In one form the softening affected only the internal surface of the uterus, and it presented itself under the appearance of irregular superficial patches of a red or brown colour, which occupied almost all the points of this surface, its limits were not

* Naturæ Medicin. Obstet. lib. viii. Vienna, 1812.

† Repertoire Generale d'Anatomie, tom. v. p. 1.

‡ Essai sur la Métrite Gangreneuse par A. Danyau, 1829.

determined, the diseased tissue passing by insensible gradations or shades into the healthy tissue. In the second species the softening extended deep into the substance of the uterus. It occupied sometimes the whole thickness of the body and cervix of the uterus. The tissue of this organ was so softened that the fingers could not seize it without passing through it in all parts. The superficial softening was combined almost constantly with some alteration of structure, peritonitis, metritis, or uterine phlebitis, and it did not appear to M. Tonellè that the existence of these had a very sensible influence on the progress of the symptoms. The softening in the second degree was also sometimes combined with other disorders, but it formed usually the principal alteration, often the only one, and invariably impressed upon the disease the most decided typhoid character.*

That the destruction of the healthy organization of the proper and internal tissues of the uterus, which has now been described, is the consequence of an inflammatory process, and not of any peculiar specific action of the parts, or an altered state of the blood as some German and French pathologists have maintained, may, I think, safely be inferred, not only from the symptoms which accompany the disease, and from the usual effects of inflammation on the muscular tissue in other parts of the body, but from the frequent occurrence of this affection in combination with peritonitis, and the other varieties of uterine inflammation. The same causes as those which produce inflammation of the other tissues of the uterus also give rise to inflammation of the muscular structure of the organ; as violence inflicted on the abdomen during pregnancy, protracted labour, the incautious introduction of the hand within the uterus, and

* Archives Generales de Medicine, tom. xxii.

the application of cold and exposure to an impure atmosphere subsequent to delivery.

Symptoms.—Pain of the hypogastrium, diminution or suppression of the lochial discharge, and rigors with rapid feeble pulse, are the most frequent symptoms of the disease. The countenance becomes pallid, with an expression of great anxiety and distress. There are often present severe headache and delirium, and other symptoms of cerebral disturbance. The skin is hot and dry at first, but afterwards cold, and sometimes of a peculiar blue or sallow tinge; the respiration hurried, with great prostration of strength. The tongue soon becomes foul, the lips covered with dark sordes, with occasional nausea, vomiting, and diarrhœa. The disease sometimes runs its course with great rapidity: at other times it does not terminate fatally before the end of the second week after delivery.

Diagnosis.—The diagnosis of this variety of uterine inflammation, particularly where it is complicated with peritonitis or phlebitis, which is frequently the case, is extremely difficult. The prostration of strength, and the alteration of the features, which often exist from the commencement, the feebleness and rapidity of the pulse, the irregular fœtid state of the lochia, are not such constant symptoms as to be considered pathognomonic, and they may arise from other causes. The most attentive consideration of the phenomena, will only lead to a probability as to the nature of the affection; and sometimes its existence cannot be determined during life. In all the cases of this affection which I have observed, the resources of nature and of art have proved equally unavailing in arresting its fatal course. The active inflammatory symptoms which have usually manifested themselves at the commencement of the attack, have passed speedily away, whatever plan of reatment has been adopted, and have been rapidly succeeded

by symptoms of exhaustion. Where the disease has not been complicated with inflammation of the other tissues of the uterus, the symptoms have not been such as to indicate the necessity for venesection; and, in one case, where a considerable quantity of blood was abstracted from the system, death soon followed. In other cases, where an opposite plan of treatment was had recourse to, the fatal termination seemed to be less speedy, though equally certain.

A case of spontaneous rupture of the uterus came under my observation in July, 1828, and on dissection, the posterior part of the cervix and body of the organ were found converted into a soft gelatinous pulp. Another case was related by Dr. Merriman to the Medical and Chirurgical Society, on the 10th of March 1829, in which the same cause appeared to have given rise to a similar result, and here not only had the parietes of the uterus undergone this morbid softening, but the spleen, liver, and other viscera, were found peculiarly soft in their texture, so that the finger could scarcely be put upon the parts without tearing them.

On the 5th of November, 1832, I examined, with Dr. H. Davies and Dr. Edwards, the body of a woman who had died the preceding day, in the British Lying-in Hospital, about half an hour after delivery. The uterus lay in the hypogastrium like a large flaccid bag, of a dark livid colour, which was removed with some difficulty without laceration, in consequence of the soft shreddy state of the uterine parietes. When cut into, the muscular tissue of the uterus, presented a blackish appearance, apparently from blood extravasated between the fibres. The whole fundus and body of the uterus was in this peculiar condition, except a small portion at the posterior and inferior part, where the placenta had not been attached. Here the healthy structure remained. The uterine appendages on both sides were likewise of a dark livid colour, and the

ovaria were broken down by the application of the slightest force.

This patient, for six weeks before delivery, had suffered so much uneasiness in the region of the uterus, that she could not lie down in bed during the whole of this time. The abdomen was also greatly distended before labour came on, and it is probable she would have died undelivered, but for the artificial assistance which was promptly afforded. The symptoms clearly proved the existence of some serious disease in the uterus before parturition commenced.

These facts, with those related by Boer, render it probable that the occurrence of softening of the uterine parietes, may occassionally take place during utero-gestation as well as subsequent to delivery.

Cases of Inflammation and softening, of the Muscular or Proper Tissue of the Uterus.

Case X.—Mrs. D——, Orange-street, Leicester square, after a severe protracted labour, was delivered of a still-born child on the 25th of March 1829. On the 27th there was exquisite tenderness of the hypogastrium, increased by pressure, with fullness and tension of the whole abdomen. The pulse was rapid and feeble. The lochia and milk suppressed. The tongue was dry and furred. Thirst urgent, with constant nausea. Leeches and warm cataplasms were applied to the region of the uterus, and calomel and opium administered every second hour. The pain gradually extended to the whole abdomen, which was enormously distended. The pulse became still more rapid and feeble. The tongue brown, teeth covered with dark sordes. Incessant vomiting of dark-coloured matters, with low muttering delirium, followed, and she sunk on the 4th of April.

Dissection.—The peritoneal surface of the great intestines were remarkably vascular, but no false membrane was observed on any of the abdominal viscera. Several pints of a brown serous fluid were contained in the peritoneal sac. The uterus was large and uncontracted, and its peritoneal coat, at the inferior and posterior part, was deeply red, its muscular tissue to a considerable extent in this situation, was of a dark ash-grey colour, and so soft as to be lacerated by slight pressure of the fingers. The os uteri at the posterior part, was softened and wholly disorganized.

Case XI.—On the 7th of September 1829, I was present at the examination of the body of a lady who had died on the 9th day after delivery, with the ordinary symptoms of low child-bed fever. Little complaint had been made of pain in the region of the uterus. The pulse was rapid and feeble, the respiration hurried. The tongue loaded, with diarrhœa. Before death the whole surface of the body had assumed a deep yellow colour. Dr. Henry Davies was consulted in this case, and it was by his kindness that I enjoyed the opportunity of witnessing this dissection, and of examining the bodies of several other women who had died in the hospital, under his care.

Dissection.—The uterus occupied the brim of the pelvis. The whole peritoneal sac had a healthy appearance, except a small portion covering the posterior part of the body of the uterus, which was red and vascular, but not covered with false membrane. On cutting into the cavity of the uterus, there escaped a dark-coloured offensive fluid. The muscular coat under the inflamed peritoneum, where the placenta had adhered, was converted into a soft flocculent substance, readily broken down with the fingers, and this morbid alteration extended nearly to the peritoneum. Around this disorganized portion of the muscular and in-

ternal coats of the uterus, similar changes, though slighter in degree, were observed in these tissues to a considerable distance, and they had a dark livid colour.

The uterine appendages on the right side were also disorganized by inflammation.

Case XII.—Mrs. Chapman, æt. 36. No. 9, Belton-street, Long Acre. Delivered on the 19th of August, 1830; labour easy. On the 24th, after drinking freely of porter, was suddenly attacked with a violent rigor, of long continuance, which was succeeded by acute uterine pain, headache, and great frequency of pulse. No remedies of any kind were employed until the 27th, when I was first called to see her. She had been delirious in the night. The pulse 130, soft and compressible. Hurried breathing, great prostration of strength. Tongue brown and furred; diarrhœa. Surface of the body of a deep sallow colour. The hypogastrium was painful on pressure. The abdomen generally neither swollen nor tender.

The symptoms became aggravated in the night and she died on the morning of the 28th.

Dissection.—Dr. Sims and Mr. Rice were present. No trace of disease could be detected in the peritoneal coat of the uterus, intestines, or other abdominal viscera, and no effusion of fluid had taken place into the peritoneal cavity.

Both ovaria were enlarged and disorganized, being so softened in consistence as to resemble a rotten pear. Both fallopian tubes were of a deep red colour, and their cavities were filled with a thin purulent fluid. These morbid appearances were most remarkable in the right uterine appendages. The muscular coat of the greater portion of the body and fundus of the uterus, at the posterior part, was of a peculiar yellow colour, and so soft, that the point of the fore-finger passed through it and the peritoneum

covering it, though the parts were dissected out in the gentlest manner. On a careful examination of the uterus, it was found that the whole of the uterine parietes at the posterior part had undergone this morbid change of structure.

Case XIII.—Mrs. Clarke, æt. 35. No. 57, Monmouth-street. On the 12th of September, 1829, (the seventh day after parturition) she had a severe febrile attack with intense pain across the forehead, redness of the eyes, increased sensibility to light, and distressing sickness at stomach. The respiration was hurried; the pulse 150 and feeble, and the skin hot. No tenderness in the region of the uterus. On the 18th, these symptoms continued without any remission, and a soft puffy swelling, about the size of a hen's egg, suddenly appeared over the back of the left-hand, close to the wrist. Until the 17th it gradually enlarged, and was accompanied with considerable swelling of the fore-arm and the most excruciating pain. A deep incision was made by Mr. Copeland Hutchison into the swelling, and an ounce of pus was discharged. (18th of September). She has been violently delirious in the night; but though now more tranquil, is still incoherent. The countenance is sunk, pulse 150 and feeble. Tongue dry and brown. Diarrhœa. There is now considerable tenderness on pressure of the hypogastrium. An offensive discharge has taken place from the vagina. The swelling in the left-hand and fore-arm is a little diminished. From the 19th to the 22nd, when she died, there was delirium, with repeated severe fits of cold shivering. Pulse 150, tongue dry and brown. The left fore-arm continued swollen, and of a dusky red colour. The integuments on the back part of the hand were completely destroyed by sloughing, and the extensor tendons laid bare.

Inspection.—The uterus had entirely receded into the pelvis. The peritoneum covering its fundus, and the posterior part of the body was of a yellowish colour, and so soft as to be torn with the fingers in the removal of the parts from the body. The muscular and internal coats of the uterus, particularly at the superior and posterior parts, were disorganized, being reduced to a soft pulp of a dark red and ash-grey colour. The appendages of the uterus and blood-vessels exhibited no trace of disease, though they were carefully examined. The cellular membrane of the left fore-arm was loaded with pus; that over the left wrist and back of the hand was reduced to the state of a dark-coloured slough.

Section IV.

Inflammation and Suppuration of the Absorbent Vessels of the Uterus.

No pathologist in this country had observed a case of inflamed absorbents of the uterus before the month of July 1829, when a fatal example of the disease occurred in St. George's Hospital. A woman æt. 30, in an advanced stage of pregnancy, was admitted into that hospital on July the 1st, under the care of Mr. Cæsar Hawkins, in consequence of sloughing of the skin covering a diseased bursa of the patella. The removal of the bursa was followed by great constitutional disturbance, and on the fourteenth, labour came on. Two days after, symptoms of uterine inflammation made their appearance, and on the eighteenth day death took place. Though the pain was relieved by bleeding, she never rallied after the attack. On examining the body, some puriform lymph was found in

the pelvis, but there was no increase of vascularity in the peritoneum. In the broad ligaments some fluid was also effused, and on each side numerous large absorbent vessels were observed passing up with the spermatic vessels, to the receptacle of the chyle, which was unusually distended. All these vessels, and the reservoir itself, were filled with pus; but that in the receptacle was mixed with lymph so as to be more solid; the vessels themselves were firmer and thicker than usual. The thoracic duct was quite healthy. The uterus was scarcely contracted and the internal surface of the lower half was soft and shreddy and in a state of slough. The upper part, where no pus was found externally, was also healthy, or nearly so on its inner surface.*

Since the occurrence of the preceding fatal example of inflamed absorbents of the uterus, several cases of this affection have come under my observation, the histories of which I shall hereafter detail.

In the extensive collection of pathological drawings, made by Dr. Carsewell for the London University, there are several in which the appearances observed in cases of inflammation and suppuration of the absorbents in the vicinity of the uterus, of the receptaculum chyli, and of the thoracic duct, have been accurately represented. These beautiful drawings were made by him in Paris, and it has been proved, by the researches of Tonellé and Dupley, that inflammation of the absorbents of the uterus, of the receptaculum chyli, and thoracic duct, occurs not unfrequently in puerperal women, and that it gives rise to the same constitutional disturbance as uterine phlebitis. It appears indeed, that these varieties of uterine inflammation are frequently combined; and it is probable that in both, the

* Med. Chir. Transac. vol. xv. p. 64.

purulent fluid is conveyed by the absorbents and veins into the mass of circulating blood. The local symptoms of this affection are often so obscure as to escape detection during life, while the constitutional symptoms which sometimes resemble in a striking manner the effects produced by specific poisons, are so virulent as not to yield to any remedies, however early and vigorously employed.

Section V.

Inflammation of the Veins of the Uterus, or Uterine Phlebitis.

In women who have enjoyed good health during pregnancy, and in whom the process of parturition has been easily accomplished, uterine phlebitis occasionally commences within twenty-four hours after delivery, with pain more or less acute in the region of the uterus, accompanied or followed by a severe rigor, or a succession of rigors, suppression of the milk and lochial discharge, acceleration of the pulse, cephalalgia, or slight incoherence, with most distressing sensation of general uneasiness, and sometimes by nausea, vomiting, and diarrhœa. These symptoms, after a short duration, are succeeded by increased heat, tremors of the muscles of the face and extremities, rapid feeble pulse, anxious and hurried respiration, great thirst, with brown dry tongue, and frequent vomiting of green coloured matters. The sensorial functions usually become much affected, and there is a state of drowsy insensibility, or violent delirium and agitation, which is soon followed by symptoms of extreme exhaustion. The whole surface of the body not unfrequently assumes a deep and peculiar sallow or yellow colour, or a petechial or vesicular eruption appears on different parts

of the body. The abdomen also, sometimes becomes swollen and tympanitic, and some of the remote organs of the body, such as the lungs, heart, brain, liver and spleen, or the articulations and cellular membrane, and muscles of the extremities, suffer disorganization, from a rapid and destructive congestion and inflammation.

There is scarcely an organ which has not been observed to become secondarily affected from inflammation and suppuration of the uterine veins. The vessels of the brain sometimes become greatly congested, and lymph is effused upon the surface of the pia mater, or serum into the ventricles; portions of the cerebral pulp have become softened and disorganized, or purulent infiltrations have taken place into the cerebral substance.

In other individuals whose lungs had previously been healthy, a rapid and destructive inflammation of the pleura has taken place, or portions of the pulmonary texture, have become condensed, of a dark red colour, or infiltrated with pus. In four cases, which have fallen under my observation, where there had been only obscure pain during life, with slight cough and dyspnœa, a copious effusion of lymph and serum was found within the cavities of the thorax; the pleura was covered with false membranes, and portions of the lung had fallen into a state of complete gangrene. In one individual the pleura had given way by sloughing, and the right side of the chest was found distended with air. Gangrene also, sometimes takes place rapidly in those parts of the body on which the patient rests, and the same process is established in other soft parts where no pressure has been made. In a case related by Cruveilhier, which did not prove fatal, the nose became black and gangrenous.

In uterine phlebitis, the mucous membrane lining the stomach, has also been observed to be reduced to a pulpy

state, and the substance of the spleen has been softened and disorganized. The eyes have also become suddenly affected with a destructive inflammation, and the vision has been entirely lost many days before the termination of life. In two cases which came under my care, the conjunctiva of both eyes, without much pain, suddenly became intensely red, the cornea opaque, and the eyelids much swollen, and under their lining membrane a large serous deposition took place; lymph and pus were also effused into the anterior chamber, and in one the cornea ultimately burst.

Deposits or infiltrations of pus, of enormous extent, also take place into the cellular membrane, in the neighbourhood of the large joints, and between the muscles of the extremities, the cartilages of the joints themselves become ulcerated, and pus is formed within their capsular ligaments. In a recent case of uterine phlebitis, the cartilage at the symphysis pubis, had been removed by ulceration, and a quantity of purulent fluid deposited within the capsular ligaments between the naked extremities of the bones.

In other puerperal women, who have never been subject to attacks of rheumatism, severe pain is experienced in various parts of the body, more particularly in the joints and extremities, with an exhausting fever. M. Tonellé states, that the integuments covering the deep abscesses resulting from uterine phlebitis, are always of a violet colour, or present a peculiar characteristic tension and shining appearance. The inflammation is not confined to certain defined limits, so as to form circumscribed abscesses, but the pus is diffused and disappears by an insensible transition into the surrounding parts. Where pus is deposited in the muscles, the fibres become of a grey colour and softened. M. Tonellé also states, that he has frequently seen

the pus in little abscesses among the muscles, where their fibres were not altered in appearance.

All these affections have a common origin, and cannot be referred to any other cause than to the morbid condition of the veins of the uterus. The purulent, or other secretions, formed by inflammation within the cavities of these vessels, probably produce the whole of the injurious effects now described, by entering the system and contaminating the mass of blood, in like manner as poisons do when absorbed into the body. It may be true, as some have supposed, though it cannot be demonstrated, that a certain number of the purulent particles fix themselves in the muscles and other parts, like globules of mercury injected into the veins, and that they become the focus, or centre, of an inflammation exactly circumscribed, which speedily runs on to suppuration.

In some cases uterine phlebitis commences at a later period after delivery than above described, and in a much more obscure and insidious form, without pain or sense of uneasiness in the region of the uterus, or any other local symptom by which the affection can be recognized. The uterus may return to the reduced volume it usually assumes after delivery; the lochial discharge may continue; and the inflammation and suppuration of the veins, which have caused the whole of the violent constitutional disturbance, and destructive lesions in distant parts of the body, may have been wholly overlooked.

Inflammation of veins rarely takes place in any part of the body, where it cannot be referred to a wound, or to some specific cause externally applied to the coats of the vessels. In uterine phlebitis, the inflammation cannot, it is true, be traced in all cases to the semilunar shaped orifices in the lining membrane of the uterus which communicate with the sinuses, where the placenta has adhered; yet, it scarcely

admits of a doubt, that the frequent occurrence of the disease arises from the orifices of these veins in the lining membrane of the uterus, being left open after the separation of the placenta, by which a direct communication is established between the cavities of these veins and the atmospheric air, in a manner somewhat analogous to what takes place in amputation and other extensive wounds. Such a condition of the uterine veins, in consequence of the separation of the placenta, must be favourable to the production of inflammation, and inflammation once excited, is seldom limited to these veins, but extends with greater or less rapidity along the continuous membrane of the uterine veins, to the spermatic or hypogastric, and from thence to the vena cava and its principal branches, which return the blood from the lower extremities.*

In a subsequent part of this work, I shall adduce numerous facts to prove, that inflammation commencing in the uterine branches of the hypogastric veins, by extending to the iliac and femoral veins, invariably gives rise to all the phenomena of phlegmasia dolens in puerperal women.

Various alterations of structure are produced by inflammation in the veins of the uterus. Their coats usually become thickened and contracted, and their inner surface sometimes lined with lymph, in the form of a perfect tube. Depositions of coagula of lymph and fibrine of the blood, mixed with purulent matter, are also frequently formed within their cavities, which become completely obliterated. Coagula of the fibrine of the blood, which often extend a considerable distance into the uterine sinuses, are formed in their orifices after every labour, and are the principal means employed by nature, along with uterine contractions,

* See a paper by the author, in the Philosoph. Transactions for 1832, on the Structure of the Human Placenta and its connection with the Uterus.

for the permanent suppression of hemorrhage. These coagula may be distinctly perceived, for several weeks after delivery, and both in their form and colour they differ from those produced by inflammation. In opening the body of a woman, who died four weeks after confinement, I observed distinct traces of these partially absorbed coagula in the muscular substance of the uterus, at that part where the placenta had adhered.

The inflammation may be limited to the veins of the uterus, but not unfrequently the contiguous muscular tissue participates in the inflammation, and becomes of a dark red, or blackish brown colour, and of an unusually soft consistence. The peritoneal covering may also be affected, and the usual consequences of puerperal peritonitis then ensue.

The veins which return the blood from the uterus, and its appendages, may be either wholly or in part inflamed; generally, however, the inflammation attacks the spermatic veins alone, and for the most part the one only on that side of the uterus to which the placenta has been attached; and it may either confine itself to a small portion of the vessel, or extend throughout its whole course, from the uterus to the vena cava. The usual consequences of inflammation of veins are then apparent, viz., injection and condensation of the cellular membrane in which they are imbedded, thickening, induration, and contraction of their coats, and the deposition of lymph, mixed with pus and coagula of blood within their cavities.

The same is the case with regard to the hypogastric veins, one only being generally affected. These veins are, however, rarely inflamed in comparison with the spermatic, and this would seem to depend on the latter veins being invariably connected with the placenta, to whatever part of the uterus it may happen to be attached.

But inflammation having once begun, it is liable, as I have before stated, to spread continuously to the veins of the whole uterine system—to those of the ovaria, of the fallopian tubes, and broad ligaments. The vena cava itself does not always escape, the inflammation spreading to it from the iliac, or from the spermatic veins. This occurrence seldom takes place to a great extent, through the medium of the spermatic, the inflammation usually terminating abruptly at the opening of the spermatic into it on the right side, or of the renal on the left. If it pursue, as it sometimes does, the direction of the kidnies, the substance of these organs, as well as their veins, may be involved in the disease.

Uterine phlebitis appears to result from the mechanical injury inflicted upon the uterus, by protracted labour from the force required for the extraction of placenta, in uterine hemorrhage, from retained portions of the placenta undergoing decomposition in the uterus, the application of cold, and perhaps of contagion, or from any of the causes which produce the other varieties of uterine inflammation. M. Dance considers deranged states of the lochia to be a frequent cause of the disease, but these are consequences, and not causes of uterine phlebitis.

It is, perhaps, impossible to determine for the most part, the precise period of its invasion, from the total absence of local pain, and of other symptoms; but it is probable that it most frequently begins soon after delivery, and remains stationary for a time around the orifices of the uterine veins, as phlebitis has been observed to do, where it occurs after venesection. Of this, however, we can have no certain proof, nor can it be admitted to be a general occurrence, from the rapidity with which the inflammation has been found to attack the uterine spermatic and renal veins. In one case, the disease proved fatal on the evening of the fifth day after

labour, and on dissection all these veins were found disorganized.

Where the veins alone are inflamed, the peritoneal and muscular tissues remaining unaffected, there is often either no pain, or only a dull pain with a sense of weight in the region of the uterus, and no other local symptom by which the disease can be recognized. The uterus too may return to its usual reduced volume, or nearly so, and it is only on the accession of the constitutional symptoms, viz., rigors, prostration of strength, rapid feeble pulse, low wandering delirium, attacks of vomiting and diarrhœa, with brown parched tongue, and ultimately rapid and destructive inflammation of the eyes, and purulent deposits in the substance of the lungs, that the existence of this insidious and dangerous affection can be determined. If the substance of the uterus be affected, this organ remains, above the brim of the pelvis, large, hard and painful on pressure, as in puerperal peritonitis.

With regard to the lochial discharge, it has sometimes been observed to be fœtid and puriform, and at other times in a perfectly natural state. Where the lochia have been offensive, in every case it appeared to be a consquence, and not a cause of the disease of the uterus.

Inflammation of the veins of the uterus, though a dangerous disease, when pus is formed within the vessels, is not invariably fatal. That it often occurs in puerperal women, where it is not suspected to exist during life, and where the symptoms are referred to other causes, is clearly demonstrated by the fact, that in the spermatic and hypogastric veins of females advanced in years, calcareous concretions, and various other proofs of disorganization have frequently been observed, which must have been produced by attacks of acute inflammation at some remote period. In many cases where the existence of uterine

phlebitis was proved by the extension of the disease to the iliac and femoral veins, complete recovery took place.

Section VI.

History of Uterine Phlebitis.

Inflammation of the venous system was first described in 1784, by Mr. John Hunter, in a paper read before a Society for the Improvement of Medical and Chirurgical Knowledge, and subsequently published in the year 1793, in the first volume of their Transactions. The fatal effects sometimes succeeding to venesection, he ascertained to depend on inflammation of the internal coats of the veins, which he observed to assume in different cases the adhesive, suppurative, or ulcerative forms. The inflammation he perceived to extend both upwards and downwards from the wound, so as entirely to close the anastamosing branches, and thus destroy the circulation in the diseased veins. The passage of the pus to the heart along with the circulating blood, he considered to be a frequent occurrence, though it was sometimes prevented by the adhesive inflammation taking place in the vein between the heart and the place of suppuration. "In all cases," he observes, "where inflammation of veins runs high, or extends itself considerably, it is to be expected that the whole system will be affected. For the most part, the same kind of affection takes place, which arises from other inflammations, with this exception, that where no adhesions of the sides of the vein are formed, or where such adhesions are incomplete, pus, passing into the circulation, may add to the general disorder, and even render it fatal." Mr. Hunter adds, "Many horses die of this disease; but what is that particular circumstance which

occasions their death, I have not been able to demonstrate. It may either be that the inflammation extends itself to the heart, or that the matter secreted from the inside of the vein, passes along the tube in considerable quantity to the heart, and mixes with the blood. I am inclined to believe, that the exposure of cavities of the larger veins in cases of accidents, and also of operations, is often the cause of many of the very extensive inflammations which sometimes attend these cases, and, indeed, may be the reason why inflammations extend or spread beyond the sphere of continued sympathy."*

Three years after Mr. Hunter's original and most valuable paper had been presented to the society, Paletta made the following striking observations on the remote consequences, or secondary effects of inflammation of veins: "Grave adeo ac vehemens malum non videbatur in sanguineis pelvis vasis substitisse: sed humorem per venæ cavæ torrentem ad cor delatum, in remotiori aliqua parte depositum fuisse, jure suspicabamur. Quare reserato thorace in dentro pulmone, qui undique liber, colore et consistentia naturali erat, quatuor abscessus offendimus," &c.

. . . "Hæc enim (vasa) sive saniosam materiam ex ipso ulcere exceptam ad interiores partes deportarint, sive quod verosimilius, pus ob tunicarum inflammationem in earum lumine generatum a redeunte sanguine in humorum massam transvectum sit, certe utrovis modo ab extremis partibus ad interiores per hac vasa materia peccans delata est.

.... "Si itaque hac transvectio causa est apostematum in memoratis visceribus observatorum: nonne idem sentiendum est de abscessibus, qui post graves capitis lesiones in hepate, liene, pulmone, pericardio consequuntur? Possunt utique sanguineæ venæ ob ictus vehementiam et

* Transactions of the Society for the Improvement of Medical and Chirurgical Knowledge, vol. i. p. 18. 1793.

capitis concussionem, etc. inflammationi ut aliæ partes esse obnoxiæ," &c.*

In an epidemic puerperal fever which prevailed in the Store-street Lying-in Hospital, and which proved fatal to many women, Dr. John Clarke and Mr. Wilson, on examining the bodies, found the peritoneal coat and substance of the uterus inflamed, and its veins often containing large quantities of pus.† Dr. C. has offered no observation on the origin and extension of the inflammation of the uterine to the spermatic and hypogastric veins, nor has he given any description of the peculiar constitutional symptoms to which it gives rise. These symptoms, however, did not escape the observation of Meckel, for in a case of puerperal fever, the history of which he communicated to Sasse, he has not only accurately described the constitutional symptoms of uterine phlebitis, but has clearly pointed out the morbid alterations which take place in the coats of the veins. " All the veins," he observes, " which surround the uterus, the hypogastric trunks, and the vena cava inferior were all greatly enlarged in volume. The place where the placenta had adhered, was distinguished at the posterior part of the uterus by a fungous mass. The veins whose exterior appearance had arrested the attention, were examined with care; they were separated from the surrounding cellular substance, and in this state the whole system of uterine and spermatic veins presented an extraordinary augmentation of the calibre of the vessels and thickness of their coats. When opened, there escaped from them a true purulent fluid. The vena cava, where the right renal vein entered, presented a resisting tumefaction, and when laid open, its coats were double the natural thickness, and the

* Exercitationes Pathologicæ, cap. iii. Obsetv. 1787.

† Practical Essays on the Management of Pregnancy and Labour, and on the Inflammatory and Febrile Diseases of Lying-in Women, 1793.

cavity was filled with pus, and a polypus formed of pseudo-membranous and puriform concretions."

"Many circumstances might contribute to render the disease mortal;" but is it not fair, enquires Meckel, "to attribute the occurrence of the fatal termination of the case, to the profound lesion of the veins?"*

Ribes describes a fatal case of puerperal peritonitis in which the abdominal veins were filled with a sanious pus, and it is the presence of this purulent fluid in the veins, he thinks, which renders the diseases of the uterus in puerperal women so rapidly fatal.†

Professor Burns observes, in the chapter of his work, on inflammation of the uterus, "that pus is often contained in the ovaria and tubes, and sinuses of the uterus. Mortification is an extremely rare termination. This is a fact of which my dissections convince me, and it is further confirmed by the opinion of Dr. Clarke. Little or no serous effusion takes place into the abdomen. In some cases the veins participate very extensively in the disease, and become inflamed to a great distance. Thus, inflammation may spread toward the heart or liver, or down along the veins of one or both thighs. This is attended with great and debilitating fever, and much pain in the course of the affected veins, which after death are found inflamed, thickened, or filled with pus."‡ Peritoneal inflammation, and inflammation of the uterus, are described by Dr. Burns, as diseases essentially different from puerperal fever, and the latter affection is not considered by him as connected with inflammation of the uterus; for though sometimes the first seat

* De Vasorum Sanguiferorum Inflammatione, Auctore Jo. Georg. Sasse. Halle, 1797.

† Memoires de la Societé Med. d'Emulat. tom. viii. p. 604. Revue Medicale, 1825, tom. iii.

‡ The Principles of Midwifery, by J. Burns. London, 1820, p. 524.

of the pain, and occasionally found inflamed, he represents the uterus as "in general not more affected than the intestines." None of the more recent writers in this country on puerperal fever, have even alluded to the subject of inflammation of the veins of the uterus.

Soon after my return from the continent in 1826, I received the appointment of physician to the British Lying-in Hospital. About the same time, through the kindness of the physicians to the Middlesex Hospital, Benevolent Institution, and Westminster General Dispensary, I was permitted not only to witness the cases of difficult labour which occurred in the practice of these Institutions, but to observe the numerous examples of acute disease which took place among the women in the puerperal state. In most of the cases of puerperal fever which came under my observation, in the earlier part of 1827, there was acute pain of the uterus, with strong febrile symptoms, and where the antiphlogistic treatment was early and vigorously adopted, recovery almost invariably followed. I was induced to believe, from what I observed at this time, that inflammation of the peritoneum and puerperal fever were the same diseases, and that blood-letting and cathartics as recommended by Drs. Gordon, Armstrong, and Mr. Hey, would generally succeed in procuring relief. But in the month of September of the same year, four fatal cases occurred in rapid succession, and the symptoms and appearances on dissection in one of these cases, completely overturned this view of the pathology of puerperal fever.

Case XIV.—A young woman, named Costello, residing in Church-court, near St. Martin's-lane, was delivered of a still-born child on the 2nd September 1827, and for four days seemed to recover in a favourable manner. On the 8th she had a severe rigor, which was followed by a rapid and

feeble state of the pulse, and great prostration of strength. No pain or swelling could be discovered by pressure in the region of the uterus, and the lochial discharge was not suppressed. Low muttering delirium took place in a few days, with tremors of the muscles of the face and extremities; the skin became of a dusky yellow hue, the eyes swollen and suffused, and the tongue of a dark brown colour, vomiting and diarrhœa followed, and she died on the 16th. During the whole progress of the disease there was no pain in the region of the uterus; but the abdomen became tympanitic twenty-four hours before death. Permission could not be obtained to examine the body, though I earnestly desired it.

Five days after the death of Mrs. Costello, the case of Mrs. Somerville occurred; and from the new and important views which it opened up of the nature of puerperal fever, I immediately resolved to avail myself of the extensive opportunities which I enjoyed in public Institutions, fully to investigate the disease by morbid anatomy.

Case XV.—*Inflammation of Left Spermatic Vein, and Sinuses of the Uterus.*—September 21st, 1827. Mrs. Somerville, No. 4, Orange-street, Leicester-square, æt. 40, was delivered of her seventh child on the 18th instant, after a natural labour. Yesterday afternoon she was attacked with a severe rigor, which was speedily followed by acute pain in the hypogastrium and loins, suppression of the lochia, nausea, urgent thirst, and increased heat of skin. In the evening she was delirious, and slightly comatose. She is now roused with difficulty, and makes no complaint, but of pain in the left iliac region. The abdomen is unusually distended, but neither hard nor tense; and pressure produces no uneasiness, except between the left ilium and umbilicus. The uterus can still be felt above the brim of the pelvis, large and hard, and very pain-

ful on pressure. The milk and lochial discharge are suppressed. The countenance is pale and anxious; respiration hurried; pulse 130, weak and intermitting; tongue white and moist; bowels have been opened by castor oil.

During the 22nd, the stupor continued to increase, the abdomen was much more distended and painful, the respiration more hurried and laborious, and the pulse extremely quick, feeble, and intermitting. She became completely comatose in the evening, and died on the morning of the 23rd.

Dissection.—Present, Dr. Auchinleck, and Mr. Wade. The intestines were slightly distended with gas, but there was no trace of inflammation on any part of their peritoneal surface, and no fluid effused into the sac of the peritoneum. On turning aside the intestines, the left spermatic vien, from the uterus to its junction with the left emulgent vien, was seen distended to nearly the size of the vena cava itself. The cellular membrane surrounding it was highly vascular, and adhered closely to its external coat. On laying open the vein, a dark-coloured firm coagulum of blood filled it throughout its whole course, but it did not adhere to its internal surface, except near its termination, where it was lined with a layer of lymph. The coats of the vein were thicker and firmer than usual, and the internal membrane was of a bright scarlet colour, as was that lining the veins of the uterus near the fundus on the left side, the part to which the placenta had been attached. The substance of the uterus in this situation was of a dark livid colour, remarkably soft in its texture, and easily torn with the fingers. The corresponding ovary and fallopian tube were also very soft and of a dark red colour, and shreds of coagulable lymph adhered closely to their surface. The left renal vein was in the same state as the spermatic, and the substance of the left kidney was soft and vascular. In

other respects, the abdominal viscera were in a healthy state, and nothing unusual was perceived in those of the thorax. The brain was not examined.

Case XVI. — On the 25th September 1827, Mrs. Cantwell, 15, Green-street, Leicester-square, who had been attended by the same midwife as the two former patients, was attacked on the 6th day after confinement with a violent rigor, and slight tenderness in the region of the uterus.

On the 26th, there was no tenderness on pressure in the hypogastrium; but the pulse was above 140, and extremely feeble, and she had been delirious in the night. There was a constant tremulous motion observed in the face and extremities; On the 27th she was violently agitated and delirious. The tongue had become dry and brown, the pulse 160, and extremely feeble; pupils dilated, respiration hurried. Neither pain, swelling, nor tension in the region of the uterus. The lochia continued to flow. On the 28th, the symptoms were aggravated, and resembled those which are observed in the worst forms of typhus. On the 29th she died, completely exhausted.

Though I urged every argument in my power to obtain permission to examine the body, it was obstinately withheld by the husband, and the real condition of the uterine veins was unfortunately not ascertained. I had no doubt, however, from what I had before observed, that the symptoms in this, as in the preceding case, arose from uterine phlebitis. The histories of these cases were related by me at the time they occurred, to several professional friends who had enjoyed extensive opportunities of observing the acute disorders of puerperal women; but none of them had met with an example of inflammation of the spermatic veins, nor would they admit that any relation existed between the state of these vessels, which I pointed out, and the consti-

tutional symptoms of what was usually termed low-childbed or typhoid puerperal fever. With the observation of Meckel, I was at this time unacquainted. Dr. Carsewell, professor of pathology in the London University, paid a short visit to England in December 1827: and on relating to him the particulars of the preceding cases, he informed me, that in the Hospitals of Paris he had witnessed several examples of inflammation of the veins of the uterus in puerperal women. Though in constant communication with the best pathologists in Paris, Dr. C. distinctly stated his conviction that no physician in France had referred the peculiar symptoms of malignant puerperal fever to inflammation of the veins of the uterus. From the French Journals, however, it appears that M. Louis observed a fatal case of this disease in 1826, and that M. Dance the same year published the histories of several cases in his Inaugural Dissertation at Paris. As far as I have been able to ascertain, no copy of M. Dance's Thesis has been seen in England, and until the summer of 1829, when his valuable papers on phlebitis first appeared in the Archives Generales de Medicine, I was utterly unacquainted with the fact, that the subject which I had undertaken to investigate, and in which I felt so deeply interested, had engaged the attention of other observers. In October 1828, the cases which have now been related, and three of those which follow, with observations on uterine phlebitis, were read before the Medical and Chirurgical Society of London, and soon after published in the Medical Gazette. On the 23rd of January 1828, when examining the preparations of Dr. Davis, I observed a specimen of inflamed spermatic vein; the left spermatic and renal veins were both obstructed with coagulable lymph. On inquiring into the history of the individual from whom the veins were taken, Dr. D. informed me that he had preserved no details of the case, but

that the diseased vessels were removed by him from the body of a woman who had died a few days after delivery from puerperal fever. So little importance had been attached by Dr. D. to this specimen, that it was never exhibited to his class in 1827; and prior to the period when I related the facts I had observed, no mention was ever made by him in his lectures, of inflammation of the veins of the uterus. Dr. Davis does not even now admit, that the inflammation of the iliac and femoral veins, which produces phlegmasia dolens, originates in the veins of the uterus, and he still maintains the opinion, "that there is no important distinction between puerperal peritonitis and the disease which has been exclusively called puerperal fever." "It is my opinion," he observes, "that the disease is precisely the same, though the opinions of authors of weight in the profession are different." (MS. Lectures.)

Case XVII.—*Severe affection of the joints after parturition.*—Mrs. Pope, æt. 40, No. 7, Feather's-court, Drury Lane, a patient of the Westminster General Dispensary. She was delivered on the 26th of October, 1827, of her fourteenth child, after an easy labour, and appeared to recover favourably until the 3rd of November. Without any obvious cause, she was then suddenly attacked with a severe rigor, which was speedily followed by intense headache, vomiting, general soreness of abdomen, and suppression of the lochia. November 6th, 1827, (eleventh day after parturition). The symptoms now observed are, great prostration of strength, laborious respiration, with pain at the bottom of the sternum, and frequent hacking cough. Pulse 135, and extremely feeble; skin hot and dry; the lips parched, and teeth covered with brown sordes; tongue of a deep red at the edges, dry, chapped, and covered with

a yellow fur in the centre. Occasional retching and vomiting. Bowels confined. Lochia suppressed. The abdomen is perfectly soft and natural, but feels generally sore on being pressed. She complains of acute lancinating pain in the vertex, and of pain and loss of power to move the left inferior extremity. On examining the limb, there are several hard lumpy cords found running up on the inside of the thigh, in the direction of the superficial veins, which are very painful to the touch. The integuments over these are not discoloured. The middle finger of the left-hand is also exquisitely painful, and on examination, is perceived to be much swollen around the second joint, where the integuments are of a dusky-red colour. 7th. She has been delirious in the night, and is now incoherent, with a peculiar wildness of expression in the countenance. The general debility has greatly increased; the respiration is still more hurried, and the pulse is 140, soft and compressible. The tongue is brown and dry; the muscles of the face and extremities are affected with tremors; the whole surface of the body is covered with a deep yellow suffusion. 8th. She is in all respects worse. There has been violent delirium during the night, and she is now roused with difficulty. The respiration is still more oppressed, and the pulse so rapid and feeble as not to be counted. The countenance dejected and deeply suffused, as is the whole surface of the body. The swelling in the joint of the finger has increased, and another painful diffused swelling along the fore-arm has occurred in the night, with slight discoloration. The whole of the right superior extremity has also become stiff, and so painful that attempts to move it produce violent pain. The swelling and hardness in the course of the superficial veins of the thigh, are diminished. 9th. The swellings in the leg have disappeared; complete collapse took place, and she sunk in the

afternoon. Previous to death the abdomen became greatly distended. On the tenth I opened the body with Mr. Prout, Surgeon to the British Lying-in Hospital, who occasionally saw her with me during the progress of the disease.

Dissection. — The intestines were distended with gas. Their peritoneal coat had every where a healthy appearance, except a small portion covering the ileum, which was of a bright red colour, though it was not sensibly thickened. The lower part of the omentum, and portions of the mesentery and mesocolon were also more vascular than usual, but no lymph was effused in these situations. The mucous membrane of the stomach, small and great intestines, was remarkably pale and bloodless. The left fallopian tube and fundus of the uterus, were of a deep red colour, but the muscular coat and sinuses of the uterus were quite healthy.

Though no purulent fluid was found in the sinuses of the fundus uteri, and those in the lower segment of the uterus were not examined, I entertained no doubt at the time this case occurred, that the symptoms which strikingly resembled those of typhus fever, arose from inflammation of the uterine veins. The hard lumpy cords, found running up on the inside of the thigh in the direction of the superficial veins, and which were exquisitely painful, proved that the saphena veins were in a state of inflammation. How this inflammation of the saphena veins had originated, I was unable at the time to explain, as it was not until a much later period that I traced the inflammation of the iliac and femoral veins in phlegmasia dolens, along the trunk of the internal iliac, to the uterus. It was also at a subsequent period, from the observations of Mr. Arnott, that I became acquainted with the fact that severe affections of the joints were symptomatic of phlebitis.

Case XVIII. — *Severe Febrile Affection with Painful Swelling of the Joints soon after Parturition.*—Mrs. Austin, æt. 30, was delivered on the 1st of June, 1828, in the British Lying-in Hospital, after a tedious labour. A portion of the placenta having been retained in the uterus several hours after the birth of the child; a profuse hemorrhage took place before it was extracted. Until the 10th, she appeared to recover in the most favourable manner, when a violent febrile attack was experienced, with delirium; and a painful diffused swelling soon after took place around the right knee-joint. On the 13th, when I first saw her, the febrile symptoms continued unabated. She was delirious, and there was a peculiar expression of wildness in the countenance. The muscles of the face and extremities were affected with tremors. The pulse was above 130, and very weak; respiration hurried and anxious, with frequent cough; the skin hot and dry; the tongue was of a glossy red colour and moist. Thirst not urgent; bowels open. There was no sickness or vomiting. The abdomen was uniformly soft, and pressure over it produced no uneasiness. The right knee-joint was stiff and swollen, but the integuments were not discoloured. On the 14th, the symptoms continued, and, in the night, a painful circumscribed swelling had taken place in the middle of the calf of the right leg, where the integuments were hot, and of a dark-red colour. On the 18th, there was a marked remission of all the symptoms, and for ten days it was hoped she would recover. From the 1st of July, till the 24th, when she died, completely worn out with diarrhœa, fever, and the painful affection of the extremities, the right knee-joint had become much more swollen, and a considerable effusion had taken place into its cavity. Over the right radius and ulna, near the wrist, a painful diffused swelling also took place, without discolouration of the integuments,

and for a week she suffered excruciating pain in the left ancle and right shoulder-joint; but in neither of these situations was any thing except a slight puffiness to be perceived.

Permission to examine the body after death was not obtained.—

The cases I shall hereafter relate, render it more than probable that in the preceding case the symptoms arose from inflammation of the veins of the uterus.

Case XIX.—*Inflammation of the Left Spermatic Vein, with Gangrene of the Lungs.*—Ann Cromer, æt. 42, a patient of the St. James's Infirmary, a healthy woman, being taken in labour on the 22nd of July, 1828, when eight months pregnant, was attacked with profuse uterine hemorrhage; this was found to be occasioned by the placenta being attached over the os uteri, which rendered it necessary to introduce the hand, and deliver by turning. Notwithstanding, she lost a great quantity of blood, which occasioned alarming exhaustion. On the evening of the following day, her pulse rose to 140, with head-ache, heat of skin, and intolerance of light; on that of the 24th she had a slight rigor, and again on the 25th, another exacerbation of fever, the pulse 140, and the breathing hurried. For some days subsequently, she had less fever and without evening exacerbations; the pulse ranged form 100 to 120; the last portion of urine (which it was necessary to draw off by the catheter), had a semi-purulent appearance, with a peculiar unpleasant smell. No pain was felt on pressure of the abdomen, although some mischief was evidently going on. On the 2nd of August her breathing had again become much oppressed, with slight cough and no expectoration. The next day, after close questioning, she admitted that she had some pain in the left side of the

chest, and sixteen ounces of blood were taken from the arm. On the 4th the pain was relieved, and on the 5th entirely removed, but the pulse remained at 120, the skin was hot and dry, there was expectoration of a little frothy mucus, and a disagreeable smell about her. On the 6th there was less fever, she was excessively weak, the features were sharp and anxious, and the breath was very offensive. On the 7th the expectoration was more free, thick, and purulent, and although the linen of her bed had been changed, the unpleasant smell was not diminished, and was evidently caused by her breath. Death took place on the 9th, eighteen days after delivery.

I examined the body with the late Mr. Baker, when the following appearances were observed.

Dissection. — On opening the chest, an extremely fœtid odour issued from its left cavity, in the lower part of which were contained, between three and four pounds of a turbid serum, mixed with portions of coagulable lymph. Superiorly, the lung was glued to the parieties of the chest, by recent loose adhesions; inferiorly, the pleura pulmonalis, and corresponding pleura costalis, were covered with a dense coating of coagulable lymph. In addition to this, there was, on part of the surface of the inferior lobe of the left lung, a quantity of the same substance in a loose flaky form, on removing which, there presented itself a portion of the lung, in a state of complete gangrene; this, about the size of a walnut, formed a black pulpy-looking mass, of insufferably fœtid odour, was contained with some dark-coloured fluid, in a sort of cavity formed by its separation from the sound lung. On making a section of the parts, passing through the gangrenous slough, one half of this fell out of the cavity in which it was situated, the other remaining attached to the parieties by a few thread-like adhesions. The cavity itself was lined by a layer of co-

agulable lymph, having the appearance of a uniform membrane. Immediately beyond this, the substance of the lung was somewhat vivid in colour, but seemed to have undergone little change in its texture; elsewhere, it was quite healthy. On cutting through the uterus, which was of the usual size, a month after delivery, a few drops of pus flowed from one of the divided sinuses, which, being traced, was found to communicate with an abscess in the left ovarium; the spermatic vein of this side was now observed to be diseased, and on cutting it open at its lower part, was found to contain pus: its coats were much thickened, and its inner surface was lined with a layer of coagulable lymph, which nearly obliterated the cavity. These diseased changes occupied the whole course of the vein to its junction with the emulgent, the coats of which were also thickened and the cavity lined with lymph. The vena cava was perfectly healthy. No affection of the peritoneum, or effusion into its cavity, existed.

I was exceedingly struck with the appearances which the lungs presented in the foregoing case, and felt greatly at a loss to account for the production of so acute and destructive an inflammation of these organs, in an individual who had, previous to delivery, never suffered from any affection of the chest. I was disposed to attribute the attack to the general shock communicated to the system, by the operation of turning, and the hemorrhage which followed; and Dr. Allison, and other professional friends, to whom I related the case, considered this to be the most satisfactory explanation of the occurrence. The following observation of Laennec, which I accidentally met with at this time, proved that the foregoing explanation was not well founded, and that the inflammatory affection of the lungs was excited by the purulent fluid formed in the uterine and spermatic veins, and not by any shock communicated to the

system, as I had supposed. "It is not uncommon to find the veins in the neighbourhood of a cancerous breast, filled with pus, either pure or mixed with blood, sometimes fluid, at other times of the degree of consistence of an atheromatous tumor."

"An additional consequence of the presence of too much pus in the blood, is the production of inflammation in different organs, and especially the lungs, which runs rapidly into suppuration. It is from this circumstance, that the subjects of surgical operations, and those labouring under extensive suppurations, are frequently cut off by peripneumonies, which, according to the observations of M. Cruveilhier, are usually lobular, that is, commencing in several points at once. This, in my opinion, is the mode in which we must explain the occurrence of metastasis of pus, at least, in the majority of cases."*

Being aware that Mr. Arnott was engaged in writing a Paper on Venous Inflammation, I related to him the cases of Somerville and Cromer, and pointed out the preceding observations of Laennec, on the remote consequences of phlebitis. Mr. Arnott then informed me, that the great object of his Paper, was to establish this very point, and that he had been upwards of two years engaged in the investigation, and had collected seventeen cases, which all went to prove, that the suppurations which take place in different viscera after external injuries, surgical operations, &c., depend not upon any general shock communicated to the system, but upon the purulent matter formed in the veins mixing with the blood. Mr. Arnott stated to me at the same time, that he considered this to be the true explanation of all Mr. Rose's cases, and of Dr. Marshall Hall's cases of suppuration of the eyes in puerperal women; and

* Laennec on Diseases of the Chest, by Forbes, 1827, p. 652.

that the painful swellings in the joints and extremities of lying-in women, arose from inflammation and suppuration of the veins of the uterus. Before hearing these important facts from Mr. Arnott, I was entirely unacquainted with the true cause of several of the most severe constitutional symptoms of uterine phlebitis.

Case XX. — *Uterine Phlebitis, with Ulceration of the Articular Cartilages, and purulent Effusion within the Capsular Ligament of the right Knee Joint, &c.* — Mrs. Mayhew, æt. 33, was delivered in the British Lying-in Hospital, on the 2d of March 1829, after an easy and natural labour. The placenta was expelled in a few minutes after the infant, and her situation seemed favourable until the third day after delivery, when a considerable discharge of blood from the uterus took place. From the 6th to the 20th of March, she made no complaint of uneasiness in any part of the body, though her strength rapidly declined. The countenance was of a dusky yellow tinge; the heat of the surface slightly increased; the respiration was hurried, particularly on bodily exertion; and the pulse was above 130 and feeble; the tongue pale and glossy, with total loss of appetite, though at no period was there nausea and vomiting. Bowels open. The uterus gradually receded into the pelvis, and pressure over the hypogastrium produced no sensible uneasiness. The milk was secreted sparingly. The lochial discharge had a peculiarly offensive smell.

From the 20th to the 28th, when she died, the prostration of strength increased, and the pulse became still more frequent and feeble. The respiration was extremely hurried, and she was incessantly harassed with a hacking cough, and the expectoration of a frothy mucus. The abdomen continued soft and flaccid, and not affected by pressure. She, however, during this period, complained of excruciating

pains in all the joints of the right superior extremity, and in the right knee joint, which was observed to be considerably swollen, but not discoloured. This patient quitted the Hospital on the 23d, and was under the care of Mr. Armstrong, of Golden Square, from that time until the 28th. Dr. H. Davies and Mr. Armstrong were present when I examined the body.

Appearances on Dissection.—On laying open the abdomen, the intestines and other viscera presented a perfectly healthy appearance, and the uterus was found reduced to its ordinary size a month after delivery. On careful examination of the peritoneal coat of the uterus, a slight adhesion was observed between it, and the rectum on the left side. The uterus being removed, and its cavity laid open, a portion of what appeared to be placenta, about the size of a large nutmeg, in a putrid state, was seen adhering to its inner surface, at the part corresponding with the adhesion, between the peritoneal coat and rectum. The muscular tissue of the uterus around this was of a dark colour, approaching to black, and as soft as sponge. On cutting into it, about a teaspoonful of purulent matter escaped from the veins, and a small additional quantity was forced out from them by pressure. Small coagula of blood and lymph, plugged up the surrounding veins. The spermatic, and other abdominal veins, presented no morbid appearance, and the uterine appendages were healthy.

On opening the capsular ligament of the right knee joint, where a fluctuation was perceived, about six ounces of thin purulent fluid escaped, and the cartilages of the joint were observed to be softened and extensively eroded. There was no appearance, however, of inflammation exterior to the capsular ligament, and the femoral vein was healthy.

The right wrist was swollen, but the structure of the

joint was not affected. The cellular membrane around it was unusually vascular and infiltrated with serum.

Case XXI.—Mrs. Keene, æt. 31, No. 6, Draper's-place, Euston-square, after a protracted labour of three days, was delivered on the 14th of July, 1829, by artificial aid, of a still-born hydrocephalic child. Immediately after the expulsion of the child, she was seized with a fit of the most intense shivering, which continued upwards of an hour, notwithstanding the exhibition of the most powerful stimuli; and the exhaustion which followed was so alarming that her life was despaired of. She rallied, however, and passed a quiet night. On the following, and two or three subsequent days, the shivering fits returned at irregular periods, sometimes in a slight form, at others, in that of a severe rigor, followed by a flush of heat, and partial or general perspiration. During this time, the effects consequent to parturition proceeded as usual. The uterus slightly painful on pressure; lochia natural; bowels open; pulse from 133 to 140, and extremely feeble. No complaint of uneasiness, with the exception of a troublesome cough and hoarseness, with which she has been afflicted during the latter months of pregnancy. On the 4th day from delivery, the secretion of milk appeared, for a short period, and afterwards receded. From this day to the 10th, the following were the symptoms: pulse rapid; skin universally of a dusky yellow colour, and the heat of surface increased; respiration hurried; thirst; tongue dry, but not furred; great prostration of strength; sallow and haggard countenance; restless and sleepless nights; mental faculties undisturbed. The uterus had gradually subsided, and no pressure, however great, either on it, or on the parts in its vicinity, caused pain, except in the right iliac region, where some uneasiness was felt; the flow of lochia natural; bowels regular. At this

period, the hacking cough which had so long troubled her, became more frequent, and it was with difficulty she expectorated the ropy mucus which followed it, and which in the day amounted to an ounce. From the 11th day the respiration became more short and hurried; the pulse more rapid; occasional flushes of heat; thirst; extreme debility; diarrhœa. Pressure over the whole abdomen gave no uneasiness, nor was pain felt in any part of the chest, though auscultation plainly indicated the existence of disease, particularly on the right side. The patient made no complaint but of weakness, and of the cough. On the 12th, the dyspnœa increased, and she sunk exhausted in the evening.

Dissection.—Mr. Prout, surgeon to the British Lying-in Hospital, who had carefully observed the progress of the symptoms, from the period of delivery, was present with me when I opened the body. The uterus was of the size it usually is about the second week after delivery, and exhibited externally no vestige of disease. On laying it open, its internal surface, as well as its muscular tissue, appeared also healthy, and the veins being traced, the right spermatic alone was found greatly enlarged and indurated. The uterus being removed from the body, for more minute examination, an incision was made into the right superior angle, to which the placenta had been attached, and here its veins were discovered to be empty, and their internal surface of a scarlet colour. On tracing them towards the trunk of the right spermatic vein, they were found to contain a sanious purulent fluid, and were contracted in their diameters, and coated with false membranes. The veins of the right ovarium and fallopian tubes were all plugged up with firm coagula. The spermatic itself was lined throughout its whole extent with dense membranes of a reddish or of an ash-grey colour. Its coats, independent of these

membranes, were of extraordinary thickness and firmness, and more like those of a large artery than of a vein. Its whole cavity was contracted; in some parts occupied by a dark coloured fluid, in others, quite obliterated by adhesions, formed between the surfaces of the membranous layers deposited within it. At the termination of the spermatic in the vena cava, its orifice was scarcely large enough to admit a crow quill; traces of inflammation extended beyond this orifice, the vena cava being partially lined from two or three inches above it, with an adventitious membrane, strongly adherent to its coats, which were at this part double their natural thickness. In its passage upwards, the inflammation had extended a short distance into the right emulgent vein, which near its orifice was coated with a pellicle of lymph. On opening the thorax, a stream of air escaped from the right side; the lungs were collapsed, and upwards of two pints and a half of a red-coloured serum were found in the sac of the pleura. The right inferior lobe was coated with lymph, and a portion of the pleura on the anterior surface was destroyed, and a black gangrenous slough exposed in the substance of the lung. The pulmonary texture around was condensed, and of a deep violet or livid colour. The left inferior lobe was also partially coated with a thin layer of lymph, and the pleura at one point on the anterior surface was elevated, as if by a small hard globular body beneath it. When this was laid open, it appeared to consist of a thick yellowish coloured cyst or capsule, containing a soft black matter like a gangrenous eschar. The substance of the lungs around was unusually dense, and of a dark livid colour.

Case XXII.—Mrs. Hickson, a middle aged woman, delivered in the British Lying-in Hospital on the 14th November 1829. On the 3rd December, the day before

her death, I first saw her; the hypogastrium, was swollen and tense, and on the right side exquisitely painful on pressure; the pulse was 130 and feeble; respiration hurried; the countenance sunk; great prostration of strength; the tongue covered with a dark brown fur; nausea, and urgent thirst; the conjunctivæ of both eyes, and the whole surface of the body of a deep yellow tinge. The milk, which was sparingly secreted, was observed to be of the same colour. I was informed that this patient had a very good labour, but that retention of urine took place a few days after she complained of some pain in the right side, which was relieved by leeches. She afterwards went on tolerably well, and was up and about till the middle of the third week; she took porter and animal food eagerly, till within two days of her death.

The body was removed from the hospital to Little Brook-street, Hanover-square, where it was examined by me on the 8th December.

The peritoneal surface of the abdominal viscera, appeared at first sight in a healthy state, and the uterus had undergone the usual reduction of volume, at the same period after delivery.

The uterine appendages on the right side were found adhering to the caput coli, and to the peritoneum near the brim of the pelvis, by a firm false membrane. The veins proceeding from the right side of the fundus uteri to the spermatic were filled with pus, and the coats of the right spermatic veins, to an extent of three inches from the uterus, were greatly thickened, and the cavity obstructed with lymph and pus. The veins in the left superior angle of the uterus also contained pus, and two small purulent deposits were found immediately under the peritoneum in the same situation.

Upwards of a pint of pure pus, was contained in the cel-

lular membrane at the brim of the pelvis on the right side, and had passed down into the cavity, exterior to the peritoneum, as low as the neck of the bladder. The mucous membrane of the bladder near its cervix was intensely red, and partially coated with a thin false membrane of an ash-grey colour.

Case XXIII.—Mrs. Cox, æt. 19, Mary-le-bone-street, St. James's, was delivered after a severe and protracted labour on the 1st December, 1829.

On the 5th, she experienced an attack of acute pain in the right side of the hypogastrium, with rigors, sickness at stomach, and diminution of the lochia. Eight ounces of blood were removed from the arm, and leeches applied to the region of the uterus, after which the pain entirely subsided.

On the 7th (the 6th day after delivery), the pulse 130 and feeble, the countenance sunk, constant drowsiness or dozing, from which she was roused with difficulty. The abdomen soft, tumid, and no where painful on the strongest pressure. Tongue dry, occasional vomiting, bowels open.

8th. Vomiting continues, tongue foul, great thirst. She now complains of pain on pressure in both iliac fossæ; abdomen generally soft and puffy. Pulse 140 and extremely feeble; great prostration of strength.

From the 9th to the 11th, when she died, she was affected with a drowsy stupor, and occasional delirium.

Dissection.—Present, Mr. Knaggs. Peritoneal surface of uterus healthy. At the left superior angle were several small abscesses, under the peritoneum; and in the muscular tissue of the uterus the veins here contained pus; the placenta had adhered to the corresponding part of the inner surface; the ovaria were soft, and greatly enlarged; to the left the fallopian tube was adherent; the internal structure

was converted into a dark red-coloured, pulpy substance; the right ovarium had undergone a similar change.

Case XXIV.—*Inflammation of the Right Spermatic Vein after Parturition, the peritoneal and parenchymatous Tissues of the Uterus healthy.*—Mrs. Gilland, 30 years of age, was delivered in the British Lying-in Hospital, on the 24th December 1829; the labour was natural, and she had previously enjoyed good health.

On the 28th December, the 4th day after her confinement, she had slight rigors, with headache, but made no complaint of uneasiness in any part of the abdomen. Headache, giddiness, with remarkable prostration of strength, and rapid feeble pulse were the only symptoms observed until the 6th of January, the day I first saw her.

She was then perfectly conscious, and did not complain of pain in the head, or of vertigo. The face was flushed, the eyes red, considerable tremors were observed in the muscles of the face, tongue and extremities; the articulation was indistinct; the pulse 150 and extremely feeble; respiration hurried; tongue dry and brown; thirst urgent; the bowels open. The abdomen was considerably distended, but not tympanitic. Firm pressure over the right side of the hypogastrium produced great uneasiness, though no unusual tension was perceived in this situation.

7th January. Constant dozing in the night without delirium. Face more flushed and eyes suffused; tongue parched; teeth and lips covered with dark sordes; slight tenderness on pressure in both iliac regions; abdomen more distended; bowels open; pulse rapid and feeble; tremors of the muscles much increased.

8th January. Has been comatose in the night; aggravation of all the symptoms; sunk in the evening.

The body was removed from the hospital, to No. 3, Great

White Lion-street, where it was examined by me on the 10th January, with Drs. Sims and Hamilton.

Dissection.—The uterus had undergone the usual reduction of volume, and at first no morbid change could be discovered in any of the abdominal viscera; the whole peritoneal sac presented a perfectly healthy appearance, with the exception of a slight adhesion between the right ovarium and fallopian tube formed by effused lymph. The veins of this ovarium and fallopian tube, and the right spermatic vein throughout its whole course, were contracted and lined with an adventitious membrane, and partially filled with lymph and pus. The mouth of the spermatic vein was nearly closed, and the inner surface of the vena cava, about an inch above and below it, was covered with shreds of flocculent albumen. The placenta had been attached to the posterior surface and right side of the uterus, but no trace of inflammation could be perceived in the vessels either of this or any other part of the muscular tissue of the organ.

Case XXV.—Mrs. Messlin, æt. 22, a patient of the British Lying-in Hospital, delivered on the 13th of January 1830, after a natural labour. During the whole of the following day, she complained of an unusual sense of chilliness, with vertigo and slight headache.

15th January. She now complains of acute pain in the left side of the chest, with confined respiration and cough. There is also great tenderness in the region of the uterus. The body of the uterus is felt above the brim of the pelvis, large and hard, and pressure over it produces exquisite suffering. Pulse above 100, full and soft; countenance flushed; skin hot; lochia and milk suppressed.

V. S. ad ℥xvi. Hirud. xxiv.

Calomel and opium every second hour.

16th. The uterine pain was immediately relieved by the bleeding, but it returned again in the night, when fourteen ounces more were drawn from the arm.

In the afternoon, the abdomen was found considerably distended, but soft. The uterus still large, hard, and painful on pressure. Pulse, rapid and feeble. Great prostration of strength. Has been drowsy — oppressed since the morning, and makes no complaint, but of distressing sickness at stomach.

During the 17th, the abdomen became more distended; the pulse more rapid and feeble; and she sunk on the morning of the 18th. The fifth day after delivery.

Dissection. — The lungs on the left side gorged with blood; pleura healthy.

The caput coli and transverse arch of the colon, were preternaturally vascular, and here and there covered with patches of lymph. The uncontracted uterus filled the brim of the pelvis. The peritoneum of the anterior part of the fundus and body of the uterus, was of a dusky red colour. The veins, at both superior angles of the uterus, were gorged with pus. The spermatic and hypogastric veins on both sides were healthy. The muscular tissue at the anterior and superior part of the uterus, where the placenta had adhered, was reduced to a soft, red-coloured, flocculent, pulp.

Both ovaria were much enlarged, vascular, soft, and their parenchymatous structure infiltrated with pus and lymph. Both fallopian tubes were of a red colour, and contained pus in their cavities.

On the 16th of January, three days after the occurrence of the last case, another patient in the Hospital was attacked the day after delivery with rigors, headache, and great tenderness of the uterus, with diminished lochial dis-

charge. The pulse was 110, and weak. Skin hot. The countenance pale and depressed. The abstraction of ℥xx of blood from the arm, and the application of xxiv leeches to the hypogastrium, were followed by immediate relief of all the symptoms.

Another case occurred on the same day which yielded to similar treatment.

Case XXVI.—On the 19th of January 1830, with Mr. North of Upper Berkeley-street, I examined the body of a woman in Portman Mews, who had died twelve or fourteen days after delivery. It was stated by her medical attendant, that the labour had been natural, and that she continued well till the fifth or sixth day after delivery, when tenderness of the abdomen came on, with fever, which soon assumed a low typhoid type. The pulse was rapid and feeble, and the tongue brown and parched. Sulphate of quinine and stimulants were liberally administered, but the symptoms assuming a more unfavourable character, Mr. North was called to see her. A puffy swelling of considerable magnitude had appeared over the left wrist, and another about the middle of the right thigh.

Dissection.—A copious sero-purulent effusion into the abdominal cavity. The uterus larger than usual at the same period after delivery. The peritoneum, covering its anterior part, highly vascular, and covered with a thick albuminous layer. The veins proceeding from the left superior angle of the uterus, left ovarium, and fallopian tube were fully distended with a purulent sanious fluid. The coats of the left spermatic vein, throughout its whole course, were greatly thickened and contracted; the lower half of the inner surface of the vein was lined with false membranes, and the cavity partially filled with pus. The superior half was blocked up with firm coagula of blood. The muscular

tissue of the fundus uteri, to a considerable extent on the left side, was of a dull yellow colour, but the part preserved its natural consistence. The veins on the right superior portion of the uterus were filled with pus. The right spermatic, and both hypogastric veins, were healthy.

Case XXVII.—Mrs. Wall, æt. 32., No. 89, Berwick-street, delivered of her second child on the 1st of November 1830. Labour protracted from deformity of the brim of the pelvis. On the morning of the 2d of November, the day after delivery, she was attacked with acute pain of the uterus, with complete suppression of the lochia, and febrile symptoms. The uterus could be felt preternaturally large and hard in the hypogastrium, and very tender on pressure. The other parts of the abdomen were soft and flaccid, and not affected by pressure. The pulse was 100, soft and compressible. A pint of blood taken from the arm, was followed by syncope and great relief of uterine pain. Eight leeches were applied to the hypogastrium, and calomel and antimonial powder administered every fourth hour. Warm cataplasms were applied over the leech bites.

3d November. Pain of uterus, now produces little uneasiness, except where pressure is made over the hypogastrium. The uterus can still be felt unusually large and hard above the brim of the pelvis. Pulse extremely rapid and feeble. Countenance pale and dejected. She is now affected with somnolence to so great a degree, that she can scarcely be roused.

She became gradually more feeble, and sunk in the night.

Dissection.—Two pints of a dark brown serous fluid in the sac of the peritoneum. The right ovarium enlarged to the size of a hen's egg, its surface of a bright red colour, and imbedded in lymph. Its structure disorganized, and

the whole presenting the appearance of a soft cyst, distended with a purulent and gelatinous fluid. The left ovarium had lost all traces of its natural form and texture, being reduced to a broken-down flocculent pulp. The absorbents of the uterus, on the left side, and in the left broad ligament, were filled with pus. The veins and muscular structure were healthy.

From the time that the British Lying-in Hospital was re-opened, in the course of the summer of 1830, for the admission of patients, no case of uterine inflammation occurred until the month of December, when the three following fatal examples of the disease were observed.

Case XXVIII. — Mrs. Sexton, 30 years of age. Delivered on the 19th of December. Labour natural. On the 21st, had a severe rigor, followed by great tenderness of the region of the uterus, headache, and suppression of the lochia. Pulse 115, full and strong. Tongue white. Thirst.

V. S. ad ℥xx. Hirud. xxxvi. hypogastrio.

Hydr. Submur. gr. iij. Opii gr. ¼. 4ta. q. q. hora.

22d December. Blood cupped and buffed. Sensibility of the uterus but little diminished. Lochia and milk suppressed. Countenance of a dusky yellow hue. Pulse 115, and feeble.

23d December. Abdomen enormously distended, tympanitic, and exquisitely painful on pressure. Pulse, rapid and feeble. Tongue foul. Urgent thirst. Somnolence and delirium. Died in the night. Permission could not be obtained to examine the uterus, but the symptoms led to the belief that the peritoneum, and deeper seated tissues of the uterus, were inflamed.

Case XXIX. — Mrs. Jones, æt. 24, on the 21st of December, was suddenly attacked 24 hours after delivery, with sickness, vomiting, and severe head-ache, and rigors. Lochia suppressed. Soreness of the hypogastrium, and both iliac regions; features collapsed. Hurried breathing. Pulse 120 and feeble.

On the 22nd the pain appeared to undergo a remission in consequence of the bleeding and other remedies employed, but it again became aggravated, as well as all the other symptoms, and she died on the 24th.

Dissection. — The placenta had been attached to the left side of the fundus uteri, and the veins at this part of the uterus, were lined with dark-coloured false membrane, and gorged with pus. The lymphatics of the left broad ligament, were distended with purulent fluid. Both ovaria were enlarged, and reduced to a soft flocculent pulp.

Both the fallopian tubes were red and vascular, and their cavities full of pus. The peritoneal coat of the uterus, at the posterior part, was inflamed, and about four ounces of yellow serum were effused into the pelvis. A few inflamed patches were observed on the peritoneal surface of the small intestines.

Case XXX. — Cecilia Boyd, æt. 31, No. 32, Peter-street. — Was admitted into the hospital on the 25th of December, but the labour-pains having been feeble and irregular, they were considered spurious, and she was allowed to return to her home after two days. On the 28th the pains suddenly became so violent that she could not leave her own residence, where she was delivered. The labour was natural.

On the 31st of December, she was attacked with pain in the uterus, rigors and occasional delirium, and rapid, feeble pulse; the countenance pallid. The abdomen was

tumid, soft. The hypogastrium and iliac fossæ painful on pressure.

1st of January. Complete remission of pain, except on pressure over the region of the uterus. Constant dozing. Pulse 140. Tongue brown and dry in the centre.

2nd. The symptoms have undergone little change, still complains of no uneasiness except on pressure. Drowsiness and delirium continue.

3rd. Suddenly seized with excruciating pain of the abdomen and distressing flatulence. The belly became distended, pulse rapid, feeble, and irregular, and she died on the 4th.

The abstraction of eight ounces of blood from the arm at the onset of the attack, produced complete syncope. In this case mercurial frictions, and calomel and opium internally, were employed to a great extent.

Dissection.—Abdomen distended with gas. Six ounces or more of red serous fluid in its cavity. Peritoneal sac not inflamed, except that portion covering the posterior surface of the uterus, and its appendages. The cellular tissue, connecting the peritoneal with the muscular coat, at the back of the cervix uteri, infiltrated with pus, as well as that between the folds of the broad ligaments, on both sides. Both spermatic veins contained pure pus in considerable quantities, as did also the venous branches at the angles, and inferior portions of the uterus. The fallopian tubes enlarged and vascular. The muscular structure of the uterus, healthy. No appearance of pus was observed in the orifices of the veins at the part to which the placenta had been attached.

Case XXXI.—Mrs. Holding, a middle-aged woman, residing at No. 4, Marshall-street, a patient of the Middlesex Hospital, was delivered on the 18th of December, 1830.

On the 21st, became affected with extreme soreness of the region of the uterus, repeated attacks of cold shivering head-ache, thirst, and suppression of the lochial discharge.

The uterus was large, hard, and exquisitely tender on pressure. The other regions of the belly were soft, flaccid, and wholly free from pain on the strongest pressure. The pulse 130; countenance pale; tongue white.

On the 22nd and 23d, incessant vomiting; great prostration of strength. Respiration hurried. Pulse feeble and intermitting. Died in the afternoon.

Dissection. — Intestines distended with air. Peritoneal coat of the intestines, fundus, and anterior part of the uterus healthy. The peritoneum covering the posterior part of the uterus, and upper part of the rectum coated with false membrane. Both ovaria large and softened to a pulp, the left highly vascular in the centre, the surface of the right covered with lymph. The substance of the uterus at the superior and anterior part, more particularly where the placenta had been attached, so soft as to be readily torn with the fingers, and of a dusky-yellow colour. The veins at the lower part of the uterus on the left side, filled with pus. The absorbents of the left superior angle, broad ligament, and fallopian tube also filled with it.

Case XXXII.—Mrs. Baird, æt. 18, residing at 64, King-street, Seven Dials, a patient of the Middlesex Hospital, was delivered of a still-born child on the 16th of March 1830. On the 18th she complained of great tenderness of the lower part of the abdomen, and had suffered from a succession of violent rigors. Dr. Ley saw her late in the evening of the 19th, when there was exquisite tenderness of the whole hypogastrium; the pulse was rapid,

the countenance sallow and depressed; the lochia had not entirely ceased to flow. Leeches and warm cataplasms were applied to the region of the uterus, and calomel and opium administered internally. On the 20th, when I first saw her, the lower part of the abdomen was swollen and so exquisitely tender, that the slightest pressure could not be endured. The pulse 160 and feeble. The countenance of a deep sallow tinge, and expressive of great distress. Respiration hurried. Frequent cough. Slight incoherence. Occasional retching. Tongue covered with a thick yellow fur. A vein in the arm was opened but no blood flowed, twenty-four leeches were applied to the hypogastrium and four grains of calomel and eight of Dover's powder, given every three hours. She continued to suffer most excruciating pain in the belly till midnight, when she gradually sunk.

Inspection. — On the morning of the 20th, Mr. Doby and Mr. Lane present. — Six ounces of sero-purulent fluid in the sac of the peritoneum. The omentum and peritoneal coat of the great and small intestines highly vascular and partially coated with lymph. Thick masses of lymph surrounded the ovaria and fallopian tubes on both sides, and also the fundus uteri. Both fallopian tubes of a deep red colour, the left distended with pus. On laying open the coats of the uterus on the anterior part, pus, in considerable quantity, flowed from the uterine sinuses. These vessels, when traced toward the spermatic veins, were found to contain puriform fluid, and were lined with dark-coloured, thin, false membrane. The inflammation had not extended either into the hypogastric or spermatic veins.

Case XXXIII. — On the 5th of May, I was called to a patient of the Southwark Lying-in Institution, who had

nearly perished from uterine hæmorrhage, in consequence of the placenta being attached to the os uteri. I immediately delivered by turning. Until the 11th, (the eighth day after her confinement), she seemed to recover, when she was attacked with severe diarrhœa. The pulse was 150. The tongue dry and furred. Great thirst and heat of skin. No pain in any part of the abdomen. During the seven following days, the debility was excessive, and every night there was a severe rigor followed by copious perspirations.

Inspection by Dr. Stephen Hall and Mr. Saunders, who had attended and witnessed the progress of the case.—The right spermatic vein, from its junction with the vena cava to its ramification immediately before entering the uterus, was irregularly enlarged to the size of a man's little finger, and of a florid red colour. When laid open it was found filled with pus, a portion of which flowed into the vena cava when the spermatic was pressed, and also through the openings into the uterus, the coats greatly thickened. The left spermatic vein, and all the other abdominal viscera healthy.

The histories of the remaining cases of uterine phlebitis which I have seen, it does not appear requisite for me to detail, as the preceding examples of this obscure and fatal disease are sufficient to illustrate its most striking phenomena.

CHAPTER III.

CAUSES OF UTERINE INFLAMMATION IN PUERPERAL WOMEN.

The causes of inflammation in the uterine organs of puerperal women are often involved in great obscurity. In some cases the inflammation is distinctly referable to the injury inflicted upon the uterus by severe, protracted, and instrumental labour, to the forcible introduction of the hand into the uterus to rectify the position of the child, to exposure to cold and moisture, and various irregularities of diet soon after delivery. But frequently it arises in the most malignant form, where none of these causes have been applied, and where we are compelled to refer it to some peculiar noxious constitution of the atmosphere, or to the communication of contagious miasmata.

It is a point of great practical importance to determine how far contagion is to be considered as a cause of this disease. Dr. Hulme maintained that it was not more contagious than pleurisis, nephritis, or any other inflammatory complaint. Dr. Hull, of Manchester, is also of opinion that puerperal fever is not contagious. M. Tonellé, who has recorded the history of the most fatal epidemic which has ever occurred in Paris, asserts that the idea of contagion was clearly out of the question in the Maternité, for the women who were newly delivered there had each a separate apartment, and yet were attacked with the disease, whilst

in the sick ward of the hospital no instance of the propagation of puerperal fever ever occurred.

The evidence of M. Dugés against the doctrine of contagion is not less strong; for he states, that in numerous instances pregnant women have been placed in the infirmary where they were surrounded by cases of peritonitis without being infected, and that still more frequently he has seen women newly delivered brought into the infirmaries on account of some other complaint, and who did not contract the disease. In no instance did he observe a midwife charged with the care of two women at the same time communicate peritonitis from a sick to a healthy individual, as is reported to have happened in London; and never has this inflammation been propagated from patient to patient in the wards set apart for the reception of healthy women.*

In the descriptions given by the earlier writers, however, of uterine inflammation, it is referred not only to the corrupted atmosphere of hospitals, but also to contagion. In the Dublin Lying-in Hospital, the Edinburgh Infirmary, the General Lying-in Hospital at Vienna, and in most of those in this metropolis, uterine inflammation has raged as an epidemic at different periods with great violence, and has appeared to be propagated by contagion. Dr. Gordon, of Aberdeen, states that he had unquestionable proof that the cause of the disease was a specific contagion, and not owing to any noxious constitution of the atmosphere. The disease seized such women only as were visited or delivered by a physician, or taken care of by a nurse, who had previously attended patients affected with the disease. "I had abundant proofs," he observes, "that every person who had been with a patient in the puerperal fever, became

* Baudelocque, sur la Péritonite Puerpérale, 8vo. Paris, 1830.

charged with an atmosphere of infection, which was communicated to every pregnant woman who happened to come within its sphere."*

Mr. Hey observes, "If the puerperal fever of Leeds was infectious, which by many it was thought to be, it was so in a very inferior degree to that at Aberdeen; for I have known instances of free communication, by the intervention of others, between women in labour or child-bed, and those affected with the disease without any bad consequences. And on the contrary, in many cases of puerperal fever, no channel whatever was discoverable whereby the disease could have been conveyed."†

Dr. Armstrong observed that most of the cases at Sunderland, forty out of fifty-three, occurred in the practice of one surgeon and his assistant. "It is hardly possible to prove," says Dr. J. Clarke, that it is not infectious, but it has also arisen, as far as we can judge, as an original disease where there had been no communication with infected persons."‡

It is difficult to reconcile this conflicting evidence; and the facts I have observed, though they have led me to adopt the opinion that the disease is sometimes communicable by contagion, yet they have not perhaps been sufficiently numerous, and of so decisive a character, as to dispel every doubt on the subject of its contagious or non-contagious nature. It is but proper to state that it has occurred in many cases, in the most destructive form, where contagion could not possibly be supposed to have operated as the cause.

* A Treatise on the Epidemic Puerperal Fever, by A. Gordon, M.D. London, 1795, p. 64.

† A Treatise on the Puerperal Fever, by William Hey, jun. London, 1815, p. 198.

‡ Dr. J. Clarke on the Epidemic Disease of Lying-in Women, 1787, and 1788.

In the last two weeks of September, 1827, five fatal cases of uterine inflammation came under my observation. All the individuals so attacked had been attended in labour by the same midwife, and no example of a febrile or inflammatory disease of a serious nature occurred during that period among the other patients of the Westminster General Dispensary, who had been attended by the other midwives belonging to the institution.

On the 16th of March, 1831, a medical practitioner, who resides in a populous parish in the vicinity of London, examined the body of a woman who died a few days after delivery from inflammation of the peritoneal coat of the uterus. On the morning of the 17th of March, he was called to attend a private patient in labour, who was safely delivered on the same day. On the 19th she was attacked with the symptoms of uterine phlebitis, severe rigors, great disturbance of the cerebral functions, rapid feeble pulse, with acute pain of the hypogastrium, and peculiar sallow colour of the whole surface of the body. She died on the fourth day after the attack, the 22d of March, and between this period and the 6th of April this practitioner attended two other patients, both of whom were attacked with the same disease in a malignant form, and fell victims to it.

On the 30th of March, it happened that the same gentleman attended a patient, a robust young woman, seventeen years of age, affected with pleuritis, for which venesection was resorted to with immediate relief. On the 5th of April there was no appearance of inflammation around the puncture, which had been made in the median basilic vein, but there had been pain in the wound during the two preceding days. The inner surface of the arm from the elbow, nearly to the axilla, was now affected with erysipelatous inflammation. Alarming constitutional symptoms

manifested themselves. The pulse 160, the tongue dry; delirium had been observed in the night. On the evening of this day the inflammation spread into the axilla. The arm was exquisitely painful; but in the vicinity of the wound, which had a healthy appearance, the colour of the skin was natural, and no hardness or pain was felt in the vein above the puncture. On the 6th patches of erysipelatous inflammation appeared in various parts of the body; on the upper and inner surface of the left arm and in the sole of the left foot, all of which were acutely painful on pressure. The inflammation of the right arm had somewhat subsided. The pulse was 160, the tongue brown, dry, and furred. Restlessness, constant dozing, and incoherence. When roused, she was conscious. The face cold; heat of the surface irregular. On the 7th, pulse rapid; countenance anxious; teeth and lips covered with sordes; somnolence and delirium. The left arm above the elbow was acutely painful, and very much swollen. The right was but little painful, and the erysipelas had made no further progress. The patches of erysipelas on the forehead and sole of the foot had disappeared, but there was a slight blush of inflammation on the inner side of the calf of the left leg. The symptoms became aggravated, and she died on the 9th of April.

I examined the body with Mr. Prout on the 11th, and the following morbid appearances were observed.

The wound in the median basilic vein was open, and its cavity filled with purulent fluid. The coats of this vessel and of the basilic vein were thickened so as to resemble the coats of an artery. The inner surface of these veins was redder than natural, and at the upper part had lost its usual smoothness, but there was no lymph deposited upon it. The mouths of the veins entering the basilic

were all closed up with firm coagula of blood or lymph. The cellular membrane, along the inner surface of the arm, was unusually vascular, and infiltrated with serum. This infiltration was to a much greater extent along the situation of the erysipelatous inflammation of the left arm; but the veins of this arm were perfectly healthy.

In the autumn of 1829, a physician was present at the examination of the body of a woman who died soon after delivery from inflammation of the peritoneal and muscular tissues of the uterus. He dissected out the uterine organs, and after inspecting them carefully, assisted in sewing up the body. He had scarcely reached home when he was hastily summoned to attend a young lady in her first labour, who was safely delivered. In sixteen hours she was attacked with violent pain in the region of the uterus; unequivocal symptoms of uterine phlebitis soon after showed themselves, and she narrowly escaped with her life.

In December, 1830, two patients in the British Lying-in Hospital, who had both been attended by the same midwife, were attacked with the disease on the same day, and both died from inflammation of the absorbents and deep-seated tissues of the uterus. Another patient was admitted into the hospital two days after the death of the last of these women, and was examined by the same midwife to ascertain if labour had commenced. The pains were false pains, but she remained from Saturday till Monday in the expectation that labour would come on. The pains having left her, she returned home, and on the following day was suddenly taken in labour and safely delivered before she could be sent to the hospital. She went on favourably for two days, and was then attacked with the most violent symptoms of inflammation of the veins of the uterus, and died in thirty-six hours.

The following statement has lately been published by Mr. Roberton, of Manchester, and it goes to support the opinion that puerperal fever is a contagious disease.* From December 3d, 1830, to January 4th, 1831, a midwife attended thirty patients for a public charity; sixteen of these were attacked with puerperal fever, and they all ultimately died. In the same month three hundred and eighty women were delivered by midwives for the institution, but none of the other patients suffered in the slightest degree. Mr. Roberton states that these sixteen were all cases of inflammation of the peritoneal surface of the uterus, and that in no instance did he meet with inflammation of the veins of the uterus.

I have since learned that the disease was prevailing extensively at Manchester at the same period, as that described by Mr. Roberton, and that many cases occurred in private practice.

These facts point out the necessity of adopting every precaution to prevent the extension of the disease, by careful and repeated ablution, and changing the clothes after attending patients who are affected with it. They shew also, whether they be considered perfectly conclusive or not as to the communicability of the affection from person to person, that we ought not to expose ourselves beyond what is absolutely necessary in examining the bodies of those who have been cut off by the complaint. When post-mortem examinations are required, they should be conducted by those who are not engaged in the practice of midwifery. We certainly owe it as a duty to our patients to act as if the contagion always existed.

Whatever conclusion we may arrive at, as to the contagious or non-contagious character of the disease usually

* Medical Gazette, No. 214.

termed puerperal fever, it cannot affect the view which has now been taken of its proximate cause or essential nature, for the symptoms, morbid appearances, and influence of remedies, all incontrovertibly prove, whatever the nature of the remote cause may be, that it acts by exciting inflammation of the uterine organs.

With regard to the nature of this inflammation, it is difficult to determine whether it be of a common or specific kind. It certainly arises where individuals are not exposed to the ordinary causes of inflammation, and it often rages as an epidemic, particularly in hospitals; and in this respect it resembles erysipelas, hospital gangrene, and other specific inflammatory diseases, which are generally supposed to depend on a vitiated state of the atmosphere. Like these diseases too, it ceases without any assignable cause, perhaps for several years, and then re-appears in the same hospitals, and is attended with the same destructive consequences.

Sporadic cases of uterine inflammation are met with in all seasons of the year, and in all the different ranks of life; and the disease is sometimes not less destructive when occurring in this form, than in hospitals during the prevalence of an epidemic.

Pouteau regarded the disease which appeared in the Hotel Dieu, at Lyons, in the spring of the year 1750, and produced great havoc among puerperal women, as an epidemic erysipelatous inflammation of the peritoneum. The same opinion of the nature of the affection, was maintained by Dr. Lowder, and Drs. Home and Young of Edinburgh, who saw the disease in the lying-in wards of the Royal Infirmary. Dr. Gordon observed erysipelas to prevail extensively at Aberdeen in 1795; but he has not inferred from this circumstance, that the peritoneal inflammation which he so accurately described was of an erysi-

pelatous kind, or different from common abdominal inflammation.

Dr. Abercrombie has lately described several cases of peritonitis which he considered to be allied to erysipelas. The great pathological character of this affection noticed by him is, that it terminates chiefly by the effusion of a serous fluid; without much, and often without any of that inflammatory and adhesive character of the disease in its more common form. Pinel, Bayle, Gasc and Laennec, to whom we are so much indebted for our knowledge of the effects of inflammation of the peritoneum, have traced no resemblance between the phenomena of puerperal peritonitis and erysipelatous inflammation, and it is still extremely doubtful if serous membranes are liable to attacks of erysipelas. Dr. Hodgkin has stated to me, in corroboration of my own observations, that the morbid appearances in puerperal peritonitis do not differ from those observed in ordinary peritonitis in either sex.

To establish the doctrine, that the uterine inflammation of puerperal women is of an erysipelatous nature, it is requisite that some decided difference should be perceptible in its products, in the changes of structure, in the progress of the symptoms, and the effects of the remedies employed. Of the numerous dissections which I have made of those who have died from the disease, I have not observed any thing to justify this distinction. Instead of running a definite course, as erysipelas does when it appears on the external surface of the body, the inflammation of the peritoneum in puerperal women, is in most cases completely cut short at the commencement, if the appropriate treatment be adopted. Erysipelas in other parts of the body cannot be arrested in this manner.

The following occurrences may seem, however, to prove that there is some connexion between erysipelas and puer-

peral fever. In the autumn of 1829, a short time before the epidemic broke out in the British Lying-in Hospital, which led to its being closed for several months, two children died of erysipelas. Another fatal case occurred in the course of the epidemic, and on examining the abdomen, I found the peritoneum extensively inflamed, with a copious effusion of sero-purulent fluid. A few days before the re-appearance of the disease in the hospital in December 1830, an infant died of erysipelas of the integuments of the abdomen, and external organs of generation, and the peritoneum was also inflamed. Another infant was attacked with gangrenous erysipelas of the right fore-finger, on the 28th of December, whose mother had died on the 24th, from uterine phlebitis. Mr. Blagden related a similar case to me. A midwife of the hospital had a severe attack of erysipelas of the face, a few days after attending in labour a fatal case of inflammation of the absorbents and uterine appendages.

During the prevalence of uterine inflammation among the patients of the British Lying-in Hospital, in the winter of 1831 and 1832, two children died from inflammation and suppuration of the umbilical vein, and in both there were patches of erysipelatous inflammation on different parts of the body. In none of the hospital attendants, did erysipelas shew itself at any of the above periods, and cases of infantile erysipelas repeatedly occurred at different times when there were no cases of puerperal fever in the hospital.

CHAPTER IV.

TREATMENT OF UTERINE INFLAMMATION IN PUERPERAL WOMEN.

Like inflammation of other organs of the body, that of the uterus varies greatly in severity in different cases. At particular periods, I have remarked a disposition to the disease in some puerperal women, evinced by tenderness of the uterus and acceleration of the pulse, but where it has taken place in so slight a degree, as to yield readily to the exhibition of opiates, and the application of fomentations and cataplasms to the hypogastrium. Some physicians, and more particularly the late professor Chaussier, have been so convinced of the advantages of employing these remedies, with the view of preventing attacks of the disease, that they have caused all patients recently delivered to take at intervals more or less distant, small doses of Dover's powder, and applied emollient cataplasms to the region of the uterus.

In cases of intestinal irritation, after pains and various spasmodic affections of the uterus and abdominal viscera, this plan of treatment will prove successful. In slight inflammatory affections of other organs, it is not unusual for the symptoms to subside without the employment of active remedies; and from what I have observed in many cases, it does not admit of doubt that, in the milder varieties of inflammation of the uterus, a spontaneous termination of the disease not unfrequently takes place.

But when inflammation of the peritoneal coat of the uterus is fully developed, and where the affection occurs in a severe sporadic or epidemic form, the soothing plan of treatment will prove wholly insufficient to arrest its course, and unless blood-letting general and local, and other antiphlogistic remedies be early and vigorously employed, it will in most cases proceed to a fatal termination. In the treatment of puerperal fever, the following are the principal objects we should keep in view. First to subdue the local inflammation of the uterine organs: and secondly, to moderate the constitutional disturbance which the local inflammation invariably produces. In fulfilling these indications, no exclusive plan of treatment should be adopted; but we ought, according to the peculiarities of each case and stage of the disease, to employ blood-letting, mercury, opium, cathartics, diaphoretics, blisters, and whatever other means we can discover to possess any influence in controlling the disease.

In no inflammatory affection of the internal organs are the good effects of blood-letting, general and local, more strikingly displayed than in the first variety of uterine inflammation, peritonitis; but the results of my experience do not confirm the accuracy of the conclusions drawn by some authors; that in all cases, by the early employment of these means, we can succeed in curing the disease. It is always an affection attended with great danger, and it not unfrequently runs its course rapidly to a fatal termination, in spite of the most prompt application of remedies.

When the symptoms of puerperal peritonitis manifest themselves as before described and in a violent form, twenty or twenty-four ounces of blood should be immediately abstracted from the arm by a large orifice, and while the patient has the trunk and shoulders considerably elevated in bed. We should not be deterred from employing the lancet

because the pulse is small and contracted, provided it does not exceed 110 or 115 pulsations in the minute: for in many cases the pulse has become fuller and stronger during the time the blood has been flowing, or soon after, and there has been a marked relief from suffering. In all cases, if possible, a decided impression should be made upon the system, and where syncope or fainting follows the venesection, it increases the salutary effect. In no case of inflammation of the peritoneal surface of the uterus have I observed any bad consequence to result from depletion carried to this extent, and in many from its early use, the force of the disease has at once been completely broken.

When the attack of inflammation is violent, and when the pain is but slightly relieved, the venesection should be followed without loss of time by the application of one, two, or three dozen of leeches to the hypogastrium, proportioning their number to the urgency of the symptoms. When the leeches have come off, the bleeding should be promoted by warm fomentations, or by a thin warm linseed-meal poultice applied to the hypogastrium. Poultices, if properly prepared, never occasion uneasiness, or an aggravation of the symptoms by their weight, but care should be taken to have them frequently renewed.

At the same time eight or ten grains of calomel in combination with five grains of antimonial powder and gr. 1 ß or gr. ii of opium, or with ten grains of Dover's powder should be administered, and this should be repeated every three or four hours, until the symptoms begin to subside. Upwards of fifty grains of calomel have been given in many cases with decided benefit, and in two only out of 170 cases has the mouth been severely affected. I have never seen the mercury in such large doses produce those symptoms of alarming weakness, and that tympanitic state of the abdomen with vomiting and great irrita-

bility of stomach which some have represented. After the second dose of the calomel, I have often exhibited with advantage a strong purgative enema, or a cathartic draught of senna and salts, repeating it according to its effect. After the operation of the medicine in some cases, the pain of the uterus which had only been relieved, has completely subsided.

There are few cases in which it is necessary to have recourse to a second bleeding from the arm: and where the propriety of this is indicated by a recurrence of the acute pain, the quantity of blood taken away should not exceed ℥xii or ℥xiv. However much the patient may complain of uterine pain, if the pulse exceed 120, and is feeble, and if the powers of the constitution have been much reduced by the previous treatment, blood should not be taken a second time from the arm. Should the pain continue undiminished six or eight hours after the first bleeding, or even later, and the pulse be full and not very rapid, and the strength of the patient little impaired, a second venesection to the extent above stated may not only be employed with safety, but with decided benefit. It ought, however, to be remembered, that much greater caution is required in having recourse to the second than the first bleeding in puerperal peritonitis, and where we are not convinced that it is absolutely necessary again to abstract blood from the arm it is better to repeat the leeching. In no case of peritonitis which has fallen under my care has it appeared necessary or safe to bleed from the arm a third time, and in a very large proportion of cases only one bleeding has been had recourse to.

After the violence of the attack has been subdued, it is proper to continue the use of the calomel, but in diminished doses. Five grains of calomel, combined with the same quantity of Dover's powder, should be given every

six hours, and this should be continued until the mouth become affected, or until the uterine tenderness be relieved. The great object we have in view in the administration of mercury, is to remove the congested and inflamed state of the vessels of the peritoneum, and to prevent the termination of the complaint by effusion of sero-purulent fluid, subsequent to which all treatment is generally unavailing. In the epidemic which prevailed in the Maternité, at Paris, in 1829, mercury was not employed until the last stage of the disease; and it is to this and to the almost exclusive use of local bleeding and emetics in the first stage, when active antiphlogistic treatment only could have availed, that is to be attributed in a considerable degree the frightful mortality which ensued.

Where the symptoms do not indicate an attack of a formidable nature, depletion ought not to be carried so far, nor should mercury and opium be employed in the large doses I have now recommended. In many of the cases, one general bleeding has proved sufficient to overcome the disease; and in many, the application of leeches alone, with five grains of submuriate of mercury, and an equal quantity of Dover's powder, with cathartics, have subdued the complaint.

Other means, besides those now described, have been recommended in the treatment of puerperal fever, such as oil of turpentine, ipecacuan, digitalis, colchicum, and camphor.

Since the oil of turpentine was recommended by Dr. Brenan, most contradictory statements have been published respecting its effects.* Dr. Brenan states, "that in the month of December 1812, puerperal fever appeared in the Dublin Lying-in Hospital in great force, so that not merely great numbers of patients, but *whole wards were swept*

* Thoughts on Puerperal Fever and its Cure by Spirits of Turpentine, by John Brenan, M.D. 1814.

away. My manner of treating this disease has been so marked with success as to cause much astonishment. The exhibition of spirits of turpentine in a disease usually considered inflammatory," he adds, " was not without that tribute of censure, which a novelty in practice usually excites. However, its effects have borne it through." After a careful perusal of Dr. Brenan's cases I feel bound to state, that I do not consider any one of them as affording unequivocal evidence of the good effects of turpentine in puerperal fever, nor am I convinced that the lives of those to whom it was administered were saved by its use. I have seen many recover without turpentine, in whom the symptoms were more unfavourable than in the cases described by Dr. Brenan, and I have seen other patients in whom the disease appeared to be aggravated by its use. In the first of Dr. Brenan's cases, the patient had been bled to thirty ounces before the turpentine was administered.

" In addition to the usual routine of practice," observes Dr. Joseph Clarke, " numerous trials were made of the rectified oil of turpentine, in doses of from six to eight drachms; sometimes in plain water, sometimes combined with an equal quantity of castor-oil. The first few doses were generally agreeable to the patient, and seemed to alleviate the pain. By a few repetitions it became extremely nauseous, and several patients declared they would rather die than repeat the dose. In more than twenty trials of this kind not a single patient recovered."*

In a Paper, published in the Dublin Hospital Reports, Dr. Douglas states, " that in the epidemical and contagious puerperal fever, ʒiii of the ol. terebinth, with an equal quantity of syrup and ʒvi of water, should be given three or four hours after the exhibition of the first dose of the

* Dr. Joseph Clarke's Letter to Dr. Armstrong.

calomel; and that after the lapse of another hour, this should be followed by an ounce of castor-oil, or some other briskly purgative medicine. In some instances, the oil of turpentine and castor-oil, may be combined in one draught. The internal use of turpentine is not to be repeated more than twice in any case whatever." "In several cases," Dr. Douglas adds, "where the debility is very considerable, the local bleeding may also be omitted; and in this case, a flannel cloth, steeped in oil of turpentine, should be applied to the abdomen, and allowed to remain for the space of fifteen minutes. The external application of turpentine, without either its internal use, or the aid of blood-letting, I have frequently experienced to be entirely efficacious in curing puerperal attacks; and, although, I have hitherto omitted to speak of turpentine for the cure of the other varieties of this disease, yet I would not feel as if I were doing justice to the community, if I did not decidedly state, that I consider it, when judiciously administered, more generally suitable, and more effectually remedial, than any other medicine yet proposed. I can safely aver, I have seen women recover, apparently by its influence, from an almost hopeless condition, certainly after every hope of recovery under ordinary treatment had been relinquished." If the oil of turpentine is to be had recourse to at all, it is evident that it should only be when the antiphlogistic treatment has been freely employed, and the active inflammatory symptoms have been subdued.

In favour of the use of digitalis and colchicum in puerperal fever, little evidence has been adduced that is satisfactory.

Emetics. — Willis, White, and other physicians, employed emetics, and more particularly ipecacuan, in the treatment of puerperal fever, before the year 1782, when Doulcet recommended the exclusive use of these remedies,

at the Hotel Dieu. Most exaggerated reports of the success of his method of treatment, were speedily propagated throughout Europe, and many considered the results at the Hotel Dieu, as affording undoubted proofs of the power of emetics, to arrest the progress of the disease in the most malignant forms. Two hundred women were represented as having been saved in the course of one epidemic at Paris, by the administration of ipecacuan, and the other remedies. It appears, however, from the statement of Alphonse le Roi, that the recovery of so many individuals was attributed, without any just ground, to the peculiar treatment adopted; for the employment of ipecacuan and Kermes mineral, according to him, was commenced by Doulcet, in the Lying-in Wards of the Hotel Dieu, when the epidemic was ceasing; but these means were found wholly inefficacious in the months of November and December, and at the beginning of the following year, when the mortality was greater than in 1788, before the remedy of Doulcet was known. M. Tenon affirms, that in 1786, the complicated puerperal fever was curable by no means then discovered.

From the intense pain of the abdomen, aggravated by the slightest pressure, or by the action of the abdominal muscles, and from the early occurrence of nausea and vomiting, in the worst cases of the disease, emetics obviously appear to be little calculated for the relief of the symptoms, and few enlightened practitioners have employed them in this country for the last forty years. Some have gone so far, indeed, as to declare, that they are sufficient to produce inflammation where it does not already exist, and that their employment is not only useless, but dangerous and absurd.

Hufeland, Osiander, and Desormeaux have, however, continued to employ emetics in the treatment of puerperal fever, and have supposed that they derived benefit from

them. M. Tonellé states that M. Desormeaux first made trial of them about the end of 1828 with great advantage. During the following year they were again employed, but most frequently they entirely failed; but they never appeared to produce any aggravation of the pain or other symptoms. Another trial was made of them after this, and they were again followed by the most happy results. In the beginning of September, 1829, during a fatal epidemic, and a cold and moist season, emetics were again had recourse to; and for the two months this treatment was pursued, all the sick were not relieved, but a great number were delivered from their sufferings as "by enchantment," and "for an instant" there seemed to be a renewal of that brilliant success which had followed the adoption of this method by Doulcet and the physicians of the Hotel Dieu." But at the end of October emetics gradually lost their influence; and towards the middle of November no advantage whatever was derived from them. In some of the successful cases related by M. Tonellé, it ought to be observed, that forty leeches, and warm cataplasms, had been applied to the hypogastrium before the emetic was given, and in those where the relief was most decided, the ipecacuan either produced a profuse perspiration, or acted freely upon the bowels, causing numerous, copious, and bilious alvine evacuations. It is highly probable, from the histories of the successful cases, that the effects of the treatment were referable rather to the action of the ipecacuan on the skin and intestines than on the stomach, for the relief experienced did not immediately follow the vomiting. M. Tonellé admits that where effusion or suppuration had taken place, emetics were of no avail; and he also relates a number of cases in which the application of leeches to the hypogastrium, and the employment of other antiphlogistic remedies, were followed by speedy and complete relief where emetics had entirely failed.

In the milder forms of uterine inflammation, (of which description were many of the cases related by M. Tonellé) it is highly probable that an emetic, which would produce a sudden determination to the skin and a free action of the intestinal canal, would relieve the congested and inflamed state of the uterus, and thus cut short the disease. In no case, however, have I considered it safe to administer emetics in any stage of the complaint, and I cannot conceive it possible for a case to occur in which the treatment should chiefly or exclusively be conducted on the plan of Doulcet.

Blisters to the hypogastrium and inside of the thighs and legs have often been found advantageous, where pain of the uterine region has continued severe, even after general and local bleeding. The external use of the oil of turpentine has also in some cases unquestionably been followed by relief of pain ; and its effect is more rapid than that of a blister.

Both general and local warm baths have been recommended by some foreign practitioners. Where the skin was hot, the pain moderate, the strength of the patient not much depressed, the immersion of the whole body in warm water was often followed, they state, by a general perspiration and relief of all the symptoms. On the other hand, where the pains were excessive, when there was great anxiety, the skin moist, the strength much reduced, the respiration hurried and anxious, the face flushed with intense headache, the patient could not endure the warm bath, and derived no benefit from it whatever. The hip bath was found more generally useful, and was employed almost indiscriminately by M. Desormeaux in all the different varieties of the disease.

Recolin, Dance, and Tonellé highly recommended the injection of warm water into the vagina and cavity of the uterus. These injections were repeated by them three or

four times in the course of the day, and they state that they not only washed away the putrid matters adhering to the internal surface of the organ, but that they appeared to relieve the irritation and inflammation of the organ itself. This practice appears to me to merit more attention than it has hitherto received in this country. I have tried it on several occasions with decided advantage.

In many cases of uterine inflammation, severe irritation of the stomach comes on in the progress of the disease, which is occasionally aggravated by anodynes and saline effervescing draughts. Ten grains of the subcarbonate of potash in an ounce of aqua menth. virid. given every two or three hours has sometimes allayed this distressing symptom, when all other remedies have failed. Should diarrhœa take place spontaneously, or follow the use of the mercury, it must be controuled by opium. The starch and laudanum glyster is by far the best mode of administering the anodyne.

During the first stage of puerperal peritonitis, cinchona, camphor, and stimulants are injurious; but when the inflammatory symptoms have been subdued, and the patient is in a state of great exhaustion, quinine, ammonia, wine, and other stimulants sometimes produce the happiest effects. I cannot too strongly urge the necessity of continuing to employ these remedies whilst the slightest hope of recovery is entertained. I have seen several patients restored to health, where the pulse had risen to 160, and was so feeble as scarcely to be felt at the wrist, where there was constant delirium, and the most alarming prostration of strength. Recovery has even taken place, in some cases which I have observed, where the abdomen has become tympanitic, and effusion to a considerable extent taken place into the abdominal cavity. In no acute disease is it of greater consequence than in this now under

consideration, that the patient should be visited by the medical attendant at short intervals, and that the effects of the remedies he prescribes should be narrowly watched.

With regard to the treatment of inflammation of the uterine appendages, and of the deeper-seated tissues of the uterus itself, whether of the absorbents, veins, or of the muscular structure, the symptoms from the commencement are generally those which contra-indicate the use of general blood-letting. In cases where the reaction at the invasion of the disease has been violent, and venesection has been employed, the relief obtained has only been temporary, and in some instances the abstraction of a small quantity of blood from the arm has produced alarming syncope. In many cases the blood will not flow in a stream when venesection has been performed, a few drops only trickling down the arm. Where the local pain is severe, leeches and warm fomentatations seem to be the most appropriate remedies; but as far as my own observations extend, we are not at present in possession of any remedial means which effectually controul those varieties of inflammation of the deeper-seated structures of the uterus which I have endeavoured to describe. The French physicians, however, are of a contrary opinion, and are satisfied that we possess a powerful remedy, even in the worst cases, in mercury, employed so as to excite salivation. In several cases of uterine phlebitis, I have employed this remedy to a great extent, externally, and speedily brought the system under its influence; yet the progress of the symptoms was not arrested, and the patients died as others had done where the mercury had not been administered. In other cases I have employed mercury to a great extent, internally, without the slightest benefit; and it may justly be doubted, from the results of M. Desormeaux's practice, whether or not it possesses the influence

M. Tonellé supposes, for of forty-three cases where mercury was used by him as the chief remedy, only fourteen recovered. In the latter stages of inflammation of the deep-seated structures of the uterus, the great depression of the powers of the system renders the liberal administration of stimulants absolutely necessary, and in several cases of phlebitis the life of the patient appeared to be preserved by them.

Prophylactic Treatment.—Admitting, as we must do, that the greater number of cases of inflammation of the veins, and other deep-seated structures of the uterus in puerperal women, prove fatal in spite of all the remedies we can employ, it becomes a most important object, to prevent altogether the occurrence of this destructive disease. A puerperal woman ought to be as careful of herself for nine days after delivery, as an individual who is recovering from an attack of continued fever, or inflammation of some important viscus. While the uterus can be felt above the brim of the pelvis, and the lochial discharge continues to flow, the most fatal consequences may result from exposure to fatigue or cold, and the slightest imprudence in diet. The administration of acrid cathartics soon after delivery should always be avoided, and no unnecessary pressure of the abdomen should be made. The greatest care should also be taken in performing the operations of midwifery, to avoid inflicting an injury on the soft parts of the mother; the hand ought not to be passed into the cavity of the uterus but with the greatest gentleness, when the introduction of it is required to alter the position of the fœtus, or to withdraw the placenta; and portions of placenta should be prevented from remaining to become decomposed within the uterus. It is impossible to condemn too strongly the practice recently recommended by Dr. Gooch, in cases of flooding after the expulsion of the placenta, of passing the

hand into the uterus for the purpose of compressing the part like a tourniquet, where the placenta was attached and from which the blood is flowing. The placenta is most frequently attached to the posterior part of the fundus and body of the uterus; it is impossible therefore, even if the hand were fully as large and broad as the placenta, that the orifices of the uterine sinuses from which the blood is escaping, can be compressed between a hand placed over the hypogastrium and the other introduced within the cavity of the uterus. The tourniquet recommended by Dr. G. will be applied over the anterior part of the uterus, where there is no blood-vessel to compress, and the bleeding orifices in the posterior surface will be left exposed.

I cannot conclude this important subject without pointing out the urgent necessity which there exists, for a full investigation of the means best calculated to prevent the occurrence of puerperal fever or uterine inflammation in Lying-in Hospitals, where its dreadful fatality has been recorded by all writers since the foundation of these institutions. From the registers of the British Lying-in Hospital, the Maternité at Paris, the Dublin Lying-in Hospital, and the tables of M. De Châteauneuf, it is proved that the average rate of mortality greatly exceeds that of institutions, where individuals are attended at their own habitations; and if it should ultimately appear that all precautions are unavailing in diminishing the numbers attacked by the disease, it becomes a subject deserving of the most serious consideration, on the ground of humanity, whether Lying-in Hospitals should not be altogether abolished, as injurious rather than beneficial to society. From what has fallen under my own observation in the British Lying-in Hospital, and other similar institutions in this metropolis, where the utmost attention is paid to ventilation and cleanliness, and where the wards are not over-

crowded with patients, I cannot hesitate to express my decided conviction, that by no means hitherto discovered, can the frequent and fatal recurrence of the disease be prevented in Lying-in Hospitals, and that the loss of human life thereby occasioned, completely defeats the objects of their benevolent founders.

CHAPTER V.

OF CRURAL PHLEBITIS, OR INFLAMMATION OF THE ILIAC AND FEMORAL VEINS.

I PROPOSE to treat of this inflammation,—first, as it appears in puerperal women,—secondly, in women who have not been pregnant,—and, thirdly as observed in the male sex.

In a former chapter I have stated that inflammation sometimes commences in the uterine branches of the internal iliac, or hypogastric veins, and that it subsequently extends from them into the common external iliac and femoral veins, and thus gives rise to all the phenomena of phlegmasia dolens. Twenty-two examples of this disease in puerperal women have come under my immediate observation; and in all of these the great venous trunks which return the blood from the lower extremities have been inflamed and obstructed. As the swelling of the affected limbs in phlegmasia dolens, and all the other local and constitutional symptoms of this affection, invariably depend on inflammation of the iliac and femoral veins, I propose, in the subsequent part of this work, to substitute the term crural phlebitis, in place of *phlegmasia dolens, œdema lacteum, depots laiteux,* and the other hypothetical names which have, up to the present time, been employed by authors to designate this disease.

Section I.

Of Crural Phlebitis in Puerperal Women.

In seven of the twenty-two cases of puerperal crural phlebitis which I have observed, the disease has commenced between the fourth and twelfth days after delivery, and in the remaining fifteen, it appeared subsequent to the end of the second week after parturition. In most of the patients there was either an attack of uterine inflammation in the interval between delivery and the commencement of the swelling in the lower extremity, or there were certain symptoms present, which I have before described as characteristic of venous inflammation, viz. rigors, headache, prostration of strength, a small rapid pulse, nausea, loaded tongue, and thirst.

The sense of pain at first experienced in the uterine region has afterwards been chiefly felt along the brim of the pelvis, in the direction of the iliac veins, and has been succeeded by tension and swelling of the part. After an interval of one or more days, the painful tumefaction of the iliac and inguinal regions, has extended along the course of the crural vessels, under Poupart's ligament, to the upper part of the thigh, and has descended from thence in the direction of the great blood-vessels to the ham. Pressure along the course of the iliac and femoral vessels has never failed to aggravate the pain, and in no other part of the limb has pressure produced much uneasiness. There has generally been a sensible fulness perceptible above Poupart's ligament before any tenderness has been experienced along the course of the femoral vessels; and in every case at the commencement of the attack, I have been

able to trace the femoral vein proceeding down the thigh like a hard cord, which rolled under the fingers.

A considerable swelling of the limb, commencing in the thigh and gradually descending to the ham, has generally taken place in the course of two or three days, and in some cases immediately after the pain has been experienced in the groin. In other cases the swelling has been first observed in the ham or calf of the leg, and has spread from these parts upward and downward until the whole extremity has become greatly enlarged. The integuments have then become tense, elastic, hot, and shining, and in most cases where the swelling has taken place rapidly, there has been no pitting upon pressure, or discolouration of the skin. In several well-marked cases, however, of crural phlebitis at the invasion of the disease, the impression of the finger has remained in different parts of the limb, more particularly along the tibia; but as the intumescence has increased, the pitting upon pressure has disappeared, until the acute stage of the complaint has passed away. At the onset of the disease I have also observed, in several cases, a diffuse erythematous redness of the integuments along the inner part of the thigh and leg. In one individual only, has suppuration of the glands taken place in the vicinity of the femoral vein; but in several, by an extension of the inflammation, the inguinal glands have become indurated and enlarged. In some women the inflammation of the femoral vein has appeared to be suddenly arrested at the part where the trunk of the saphena enters it, and the inflammation has extended along the superficial veins to the leg and foot. The swelling and pain in these instances have been greatest along the inner surface of the thigh, in the course of the saphena veins. In most cases of crural phlebitis, not only the whole lower extremity, but the nates and vulva, have been affected with a glossy, hot, colour-

less, and painful swelling, which has not retained the impression of the finger.

The power of moving or extending the leg has been completely lost after the disease has been fully formed, and the greatest degree of freedom from pain has been experienced by the patients in the horizontal posture with the limb slightly flexed at the knee and hip joints. The severity of the pain and febrile symptoms has usually diminished in a few days after the occurrence of the swelling; but this has not invariably happened, and I have seen some individuals suffer from excruciating pain, and violent febrile disturbance for many weeks, or through the whole period of the acute stage of the disease.

The duration of the acute local symptoms has been, very various in different cases. In the greater number they have subsided in two or three weeks, and sometimes earlier, and the limb has then been left in a powerless and œdematous state. The swelling of the thigh has first disappeared, and the leg and foot have more slowly resumed their natural form. In one case, after the swelling had subsided several months, large clusters of dilated superficial veins were seen proceeding from the foot, along the leg and thigh, to the trunk; and numerous veins as large as a finger were observed over the lower part of the abdominal parietes. In some women the extremity does not return to its natural state for many months, or years, or even during life. In the summer of 1831, a lady was placed under my care for an affection of the left lower extremity, who, forty years before, had suffered from an attack of puerperal crural phlebitis in the same side. The left thigh and leg had remained larger and weaker than the other during the whole of this long period, and was liable to suffer severely from fatigue, and slight changes in the atmosphere. This lady was attended in her confinement

by a celebrated London accoucheur, who was so strongly impressed with a belief of the truth of the doctrine of milky deposits in crural phlebitis, that he ordered the infant to be kept night and day at the breasts, lest the milk should make its way into the thigh.*

In four cases of this affection, after the acute symptoms had begun to subside, the same appearances were observed in the iliac and femoral veins of the opposite extremity and the other thigh, the leg and the foot became similarly affected. In two individuals only has the disease attacked the same extremity twice. In one woman an interval of twelve years elapsed between the first and second attack.

Section II.

Cases and Dissections.

The following cases are added in order to illustrate the principal phenomena of inflammation of the iliac and femoral veins in puerperal women.

Case XXXIV.—Mrs. Jones, æt. 31, delivered on the 10th of March 1827. On the 14th she began to experience a sense of pain in the left groin and calf of the leg, with numbness in the whole left inferior extremity, but nothing unusual was perceived in the appearance of the limb, except a slight tumefaction of the inguinal glands, where pressure occasioned great uneasiness. She had rigors; the

* The Countess H. had an attack of Crural Phlebitis soon after delivery, at the same time with the above lady, and died of the disease. So much for the accuracy of those who have maintained that the disease was never known to be fatal till of late years.

tongue was furred, and there was much thirst. Bowels open. Pulse 80. The flow of milk and lochia natural.—16th, (the sixth day after parturition), the pain of the left thigh and leg continued with increased severity, particularly from the groin to the knee, along the inner surface of the limb, where a swelling of a glistening white appearance was observed. The pulse still 80, and the general functions but little deranged. 19th. The pain had diminished, but the swelling had greatly increased, and extended to the leg and foot, which were both very tense and did not pit upon pressure. There was no discolouration of the skin. The pain of the limb was relieved by placing it in a state of moderate flexion. 21st. The pain in the groin had abated, and the swelling appeared to decrease. 24th. Pain of the limb aggravated particularly, on moving it. Pulse more accelerated, skin hot and moist; she was extremely irritable and desponding.

25th. (The fifteenth day after delivery) when I first saw her, the whole extremity was much swollen, the intumescence being greatest in the ham and calf of the leg. The integuments wore a uniform smooth shining appearance, having a cream-like colour, and every where pitting on pressure, but more readily in some situations than in others. The temperature to the touch did not differ from that of the other limb, though she complained of a disagreeable sensation of heat throughout its whole extent, and much pain was experienced in the upper and inner part of the thigh on moving it. Immediately below Poupart's ligament, in the situation of the femoral vein, a thick, hard cord, about the size of the little finger, was distinctly felt. This cord, which rolled under the fingers, and was exquisitely sensible when pressed, could be distinctly traced three or four inches down the thigh in the course of the femoral vessels, and great pain was experienced on pressure, as low down

as the middle of the thigh in the same direction. The pulsations of the femoral artery were felt in the usual situation below Poupart's ligament; pressure over this vessel excited little or no uneasiness. Pulse 90 and sharp. Tongue much furred; thirst urgent; bowels confined. The lochia had nearly disappeared.

Leeches were applied to the left groin and upper and inner part of the thigh; these were followed by cold evaporating lotions to the affected parts, and mild cathartics, diaphoretics and anodynes, were administered internally.

30th. The acute pain on pressure, and motion of the limb had subsided, and the extremity was universally œdematous. For two months after this period, the limb remained so feeble as to disable her from walking, and continued larger than the other.

Eleven months after the attack, the general health of the patient was restored, and she again became pregnant. On the 5th of November, 1828, she was delivered of a still-born child and died soon after, from uterine hemorrhage.

Dissection. — The whole of the left inferior extremity was considerably larger than the right, but no serous fluid escaped from the incisions made through the integuments, beneath which a thick layer of peculiarly dense granular adipose matter was observed. The common external iliac and femoral veins and arteries, enclosed in their sheath, were removed from the body for examination. The common iliac, with its subdivisions, and the upper part of the femoral veins so resembled a ligamentous cord, that, on opening the sheath, the vessel was not, until dissected out, distinguishable from the cellular substance surrounding it. On laying open the middle portion of the vein, a firm thin layer of ash-coloured lymph was found in some places adhering close to and uniting its sides, and in others clogging it up, but not distending it. On tracing upwards,

the obliterated vein, that portion which lies above Poupart's ligament, was observed to become gradually smaller, so that in the situation of the common iliac, it was lost in the surrounding cellular membrane, and no traces of its entrance into the vena cava were discernible. The vena cava itself was in its natural state. The entrance of the internal iliac was completely closed, and in the small portion of it, which I had an opportunity of examining, the inner surface was coated with an adventitious membrane. The lower end of the removed vein was permeable, but its coats were much more dense than natural, and the inner surface was lined with a strong membrane, which diminished considerably its calibre, and here and there fine bands of the same substance ran from one side of the vessel to the other. The outer coat had formed strong adhesions with the artery and the common sheath; the inguinal glands adhered firmly to the veins, but were otherwise in a healthy condition.—No appearance of recent disease existed, and the density and firmness of the morbid textures, evidently showed that the whole was the result of inflammation which had occurred at a remote period. An accurate drawing of the appearances was made immediately after the removal of the vessels from the body, and the morbid parts have been preserved in my collection of diseased veins.

The preceding case occurred in the practice of Mr. Grant, to whom I was indebted for the opportunity of examining it. The patient was visited by several physicians and surgeons, during the progress of the affection, and none of them expressed a doubt as to the disease being phlegmasia dolens. The hard, painful cord in the groin, was supposed by some to be an inflamed absorbent vessel, but the dissection proved this opinion to be incorrect. This case also, clearly established the truth of what had before been disputed, that recovery may take place, after the ex-

istence of extensive inflammation and obliteration of the iliac and femoral veins. At this period I was unacquainted with the important pathological fact, that the inflammation commences in the uterus, and I could obtain no satisfactory explanation of the cause, why the disease did not occur during pregnancy, or until a certain period had elapsed after delivery. Neither in this nor in the following case did I examine the internal iliac veins with a view to discover the commencement of the disease in the uterus.

Case XXXV. — *Inflammation of the Iliac and Femoral Veins after delivery, extending to the Vena Cava, &c. and followed by the usual symptoms of Fatal Phlebitis.* — Mrs. Edwards, æt. 35, No. 54, King-street, Long Acre, 16th of April, 1829, was delivered of her second child, three weeks ago, after a natural labour, and on the 9th instant was attacked suddenly with pain in the calf of the right leg, and loss of power in the whole right inferior extremity. On the 13th, a considerable swelling, without discolouration, had taken place from the ham to the foot, and great tenderness was experienced along the inner surface of the thigh to the groin. The extremity is now universally swollen, painful, and deprived of all power of motion. The temperature along the inner surface of the limb is increased; the integuments are pale and glistening, and do not pit upon pressure. There is no pain in the hypogastrium, but pressure along the course of the crural vessels excites great suffering, and the vein from the groin to the middle of the thigh is indurated, enlarged, and exquisitely sensible. There is also great sensibility in the ham, and along the inner suface of the leg to the ankle, and where some branches of the superficial veins are hard and painful on pressure. Pulse 80. Tongue much loaded;

thirst. Bowels open. It is reported that there was no rigor or symptom of pyrexia, at the invasion of the disease. Twelve years ago, after the birth of her first child, the patient and her relatives state, that she experienced an attack similar to the present in the same limb, and that it remained in a weak condition for several months afterwards, but ultimately recovered its natural size and power.

18th of April. The tension and increased heat along the inner surface of the limb are somewhat diminished, but the pain continues in the course of the vessels. May 1st, Affection declining. The femoral vein cannot now be felt, but there is still a sense of tenderness in its course down the thigh. No pitting on pressure. She has suffered, during three or four days, considerable uneasiness between the umbilicus and pubis, as well as in the loins, and has had rigors, with quick pulse, loaded tongue, and thirst. The abdomen is soft, but tender on pressure around the umbilicus. 9th. The swelling of the limb is nearly gone, as is the tenderness in the course of the femoral vessels. For several days past, she has experienced attacks of acute pain in the umbilical region, loins and back, which have assumed a regular intermittent form. Every afternoon there has been a violent rigor of an hour's duration, followed by increased heat and profuse perspiration. In the course of the last and preceding nights, there has been slight delirium. The skin is now hot and dry. Pulse 125; tongue brown and parched. Bowels open. The abdomen is neither tense nor swollen. On pressing around the umbilicus, she complains of a deep-seated feeling of soreness. A strong vibratory motion corresponding with the pulsations of the heart, is perceived in the epigastrium.

21st. The febrile attacks gradually declined in severity, and she appeared to be recovering until yesterday, when she had a long and violent fit of cold shivering. The pulse

is extremely rapid and feeble, and the countenance expressive of deep anxiety. There remains no trace of the affection of the lower extremity. 23rd. Has been vomiting at intervals ever since yesterday. Complains of great pain in the left side, increased upon taking a deep inspiration. Pulse 120. 24th. Great prostration of strength and delirium. Surface of the body has assumed a peculiar sallow tinge. The conjunctiva of right eye has suddenly become of a deep red colour, and so much swollen that the eyelids cannot be closed. The cornea is dull, and she makes little complaint of pain of the eye, and there is no intolerance of light.

25th. Repeated attacks of vomiting. Debility rapidly increasing; respiration hurried; incessant hacking cough. Pulse 140, feeble; surface of the body cold and clammy. Tongue and teeth covered with dark sordes; diarrhœa. The left eye has also become red and swollen, without much increased sensibility. 26th. Great debility; when undisturbed she is delirious, but seems conscious when roused, and complains of pain in the left side of the chest. Pulse 140. Tongue black and dry. Conjunctiva of left eye also affected with swelling and intense redness. The cornea is dull, and shreds of lymph have been effused over the left iris.

2d June. Vision lost. Eyes swollen and pushed forward from the orbits. Great debility. A red puffy swelling has suddenly appeared over the right elbow joint. Diarrhœa. Constant wandering. Hurried and laborious respiration. 15th, died.

Inspection.— Thorax: In its left cavity were contained, upwards of two pints of a thin purulent fluid, and extensive recent adhesions existed between the pleura covering the lower margin of the superior lobe, and the pleura costalis. The substance of this lobe was of a dark colour, approach-

ing to black, and soft in texture, so as to be readily broken down with the fingers. In its centre, about an ounce of cream-coloured pus was found deposited in the dark-coloured and softened lung. This was not contained in a cyst, or membrane, but infiltrated into the pulmonary tissue. In the right cavity of the chest, recent adhesions also existed at the inferior part. A portion of the right inferior lobe was entirely changed from the healthy structure, being converted into a dense, solid, dark-coloured mass. On the anterior surface of this lobe, the pleura was elevated as if by a hard irregular tumor, but when cut into, no pus escaped from this part, and it presented only the appearance of the surrounding portions of lung, with a greater degree of condensation.

Vena cava inferior. — Coats of the vessel considerably thickened, and the internal, where visible, of a scarlet colour; its whole cavity occupied by a coagulum, distending it to its utmost extent, and terminating in a loose pointed extremity, about an inch below the entrance of the vena cava hepatica. The coagulum, covered with a membranous-like investiture of a bright red colour, throughout firmly, and in many places, inseparably adherent to the inner lining of the vein; the substance within it varied in consistence and colour, in some parts it presented the appearance of coagulable lymph; in others, it was a pultaceous dull yellow mass, made up apparently of pus and lymph, blended together. The exterior of the firmer portions were separated into layers, which gradually disappeared as they approached the centre. The mouths of all the veins emptying themselves into the cava were sealed up, the emulgents excepted; the coagulum, near the entrance of these vessels, hanging loosely within the cava.

Left common iliac, and its branches. — Its interior plugged up with a continuation of the coagulum from the cava, and

differing in no respect from it, either as to consistence, colour, or the firmness of its adhesions to the inner tunic of the vein; it was continued beyond the entrance of the internal iliac, (which it completely closed,) and terminated in a pointed extremity about the middle of the external iliac; neither the remainder of this vessel, nor the femoral vein, exhibited any morbid changes. The internal iliac was much contracted, and lined with a thick adventitious membrane.

Right common iliac, and its branches.— This vessel was contracted to more than one half of its natural size; it was firm to the touch, and of a greyish blue colour; to its internal coat adhered an adventitious membrane of the same colour, containing within it a firm coagulum, made up of thin layers of dense lymph. The internal iliac was rendered quite impervious by dense dark-coloured bluish membranes, and at its entrance into the common iliac converted into a solid cord.

The contracted external iliac, contained within it a soft yellowish coagulum, similar to that in the cava; its coats were three or four times their natural thickness, and lined with dark-coloured membranous layers.

The femoral vein, from Poupart's ligament to the middle of the thigh, was diminished in size, and almost inseparable from the artery. Its tunics were thickened, and its interior coated with a dense membrane, surrounding a solid purple coagulum strongly adherent to it. The superficial, and deep femoral veins, were in a similar condition; and the saphena major, and minor, differed from the femoral veins only in the size of the coagulum they contained, which was slender, and had formed no adhesions with the layers of lymph lining their cavity. The cellular membrane, and other textures of the limb, were in a perfectly healthy condition, and in size and appearance, there was externally no visible difference between the two extremities.

The following account has been given by Mr. Wilson of the state of the veins, through which the circulation had been carried on, in a case of obstructed vena cava, which he had an opportunity of examining after death. The anastamosing branches of the veins, on the sides and back part of the pelvis, were much enlarged, as were also those between the vena saphena major, and the branches accompanying the deep-seated arteries, passing through the foramea magnum ischii, and the sciatic notch: large communications existed between the venæ pudicæ externæ, and the lower branches of the inferior mesenteric vein, which was enlarged to treble its natural size. The veins coming from the sinuses of the dura mater, in the vertebral theca, the sinuses themselves, and the veins entering them, were much enlarged; and the communication between them, and the sacral and lumbar were, by the blood contained in them, rendered very apparent. The lumbar veins anastamosed with the vena azygos, which was three times its natural size. The blood which entered the mesenteric vein, passed from thence to the vena portæ; it circulated afterwards through the liver, and passed through the small portion of the vena cava, which remained pervious to the right auricle.*

Case XXXVI.—*Puerperal Crural Phlebitis in a patient who subsequently died of Tubercular Phthisis.*—Mrs. Foster, æt. 25, No. 27, Little Windmill-street, out-patient of the British Lying-in Hospital.

May 8, 1829. Previous to her confinement, six weeks ago, she had been affected for several months with pain in the chest, difficulty of respiration, cough, with copious ex-

* Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, vol. iii.

pectoration of a matter tinged with blood, emaciation, and profuse perspirations in the night. During the last fourteen days, she has been suffering from attacks of pain in the bowels and diarrhœa.

On the 4th inst. she experienced a sense of soreness in the left groin, which gradually extended along the inner surface of the thigh to the ham, and from thence along the posterior surface of the leg to the foot. She stated, that for two days before the occurrence of pain in the groin, she had felt great uneasiness in the region of the uterus, that this suddenly quitted the hypogastrium and passed into the groin, and that from thence it extended downward along the inner surface of the thigh to the leg. The limb became swollen twenty-four hours after the invasion of the pain.

The whole left inferior extremity is now affected with a hot, painful colourless swelling, nowhere pitting on pressure, except over the foot. The thigh is fully double the size of the other, and any attempt to move the limb produces excruciating pain along the inner surface of the thigh; and the pain excited by pressure along the tract of the femoral vein is so acute, that the condition of this vessel cannot be ascertained. Several branches of the saphena major above the knee are distended and hard. Pulse 120, respiration quick and laborious; tongue peculiarly red and glossy; diarrhœa continues. 10th. Pulmonary affection aggravated. The limb continues extremely painful, and is still more swollen. The groin is so tender, that she cannot endure the slightest pressure over it. The same is the case with the inner surface of the thigh. The branches of the saphena are still hard and painful. 11th. The femoral vein, under Poupart's ligament, can now be felt indurated and enlarged, and it is exquisitely painful when pressed, as is the inner surface of the thigh, the ham

and the calf of the leg. There is comparatively little tenderness along the outer surface of the limb. Pulse 120, skin hot.

17th. Diarrhœa, emaciation, colliquative sweats, and difficulty of respiration increasing. The left inferior extremity is still much swollen; but there is less pain in the groin and in the course of the femoral vessels. Died on the 24th.

Dissection.—Dr. Sims, Mr. Prout, and Mr. Perry, present.—Thorax. Adhesions between the pleuræ on both sides. Scarcely a portion of lung could be observed which did not contain tubercles, in various stages of their growth. The right and left superior lobes contained several large tuberculous excavations.

The vena cava and right common and external iliac veins were in a sound state. The left common external and internal iliac veins were all impervious, and had undergone various alterations of structure.

The common iliac, at its termination, was reduced to a slender tube, about a line in diameter, which was lined with a bluish slate-coloured adventitious membrane. The remainder of the common and the external iliac veins were coated also with a dark-coloured membrane, and their centre filled with a brownish ochrey-coloured tenacious substance, rather more consistent than the crassamentum of the blood.

The left hypogastric or internal iliac vein was in the same condition, but in some places reduced to a cord-like substance, and its cavity throughout completely obliterated. The branches of this vein, taking their origin in the uterus, and usually termed the uterine plexus, were found completely plugged up with firm red coagula. From the commencement of the branches of this plexus of the hypogastric vein to the termination of this vein in the iliac, the whole

had become thickened, contracted and plugged up with coagula and adventitious membranes of a dark blue colour.

The same changes had taken place in the uterine plexus, and trunk of the right hypogastric vein, from the uterus to its unusual termination in the left common iliac vein.

The coats of the left femoral vein were thickened, and closely adherent to the artery, and surrounding cellular substance; its whole interior lined with an adventitious membrane and distended with a reddish coloured coagulum. The same morbid changes presented themselves in the deep and superficial branches as far as they were examined down the thigh.

Case XXXVII.—*Puerperal Crural Phlebitis, terminating Fatally seven weeks after Delivery.*—Mrs. Mason, æt. 42, No. 3, Little Vine-street, August 29th, 1829, four weeks ago, was delivered of twins, and before the expulsion of the placenta, had nearly perished from uterine hemorrhage. Uterine inflammation soon followed, but she appeared to recover until the 27th inst. (two days ago) when she had a violent fit of cold shivering, followed by pyrexia and pain in the right iliac region and groin. Yesterday morning the pain increased in severity, and extended down the inner surface of the thigh towards the ham, and in the evening the whole thigh and leg was perceived to be considerably swollen.

At present the whole right inferior extremity is affected with a general intumescence, and is completely deprived of all power of motion. The temperature of the limb, particularly along the inner surface, is much higher than that of the other, but the integuments retain their natural colour, and do not pit on pressure. The femoral vein for several inches under Poupart's ligament, is very distinctly felt enlarged, and is very painful when pressed. Out of the

course of the crural vessels little uneasines is produced by pressure. In the right side of the hypogastrium there is also great tenderness: pulse 120; tongue furred; she appears pale and depressed, and complains of deep-seated acute pain in the lower part of the back when she attempts to move.

August 31. The pain continues in the groin, and along the inner surface of the thigh. The glands in the groin are painful and tumid. The limb is considerably swollen. Febrile symptoms continue. September 14th. The limb is now œdematous, and nearly free from pain. She has complained of tenderness in the left groin and thigh. During the last four days she has had repeated attacks of cold shivering, and has suffered severely from diarhœa, and deep-seated pain in the lower part of the back. Pulse 130 and feeble. Tongue white.

From the 15th to the 22nd, when she died, she was occasionally delirious, and made no complaint of pain except in the back; pulse 140; tongue dry and furred; frequent attacks of diarrhœa and severe rigors. Both inferior extremities were œdematous.

Dissection.—The veins presented nearly similar appearances to those observed in the preceding cases. The divisions of the vena cava were in this instance both affected. On the left side, the cavities of the iliac and femoral veins were filled with a dark purple coagulum, their coats being not much thicker than natural; whilst on the right side, the coats of these veins were dense and ligamentous, and the cavities blocked up by adventitious membranes, or lymph of a dull yellow colour.

The lower part of the vena cava, for the space of two inches, as well as the right common iliac was obstructed by a tough membrane of lymph surrounding a soft semifluid yellowish matter.

The right common external, and internal iliac veins were imbedded in a mass of suppurating glands, the purulent fluid of which had escaped into the adjacent cellular membrane, and forced its way downwards in the course of the psoas muscle, as low as Poupart's ligament.

The right hypogastric vein was reduced to a small impervious cord, and its branches distended with coagula of lymph of a bright red colour. The right femoral and its branches were in like manner impervious, their coats being greatly thickened, and their interior occupied by coagula. The cavities of the left common external iliac and hypogastric veins contained soft coagula, disposed in layers, which adhered to the inner tunic of the vessel.

The trunk of the left hypogastric vein was contracted, its coats somewhat thickened, as well as its branches filled with red coloured worm-like coagula. The spermatic veins were healthy. The cellular membrane of both lower extremities was infiltrated with serum.

Case XXXVIII.—*Inflammation of left, common, internal, and external Iliac and Femoral Veins after Parturition.*—A lady, 26 years of age, was delivered on the 19th June, 1831. The labour was protracted, and the placenta after having been retained in the uterus six hours, was removed artificially, with some difficulty. In the course of a few days after, great tendernes of the uterus with pyrexia followed. The pain subsided after the application of leeches to the hypogastrium, but the fever with remarkable prostration of strength continued till the end of the third week. A painful sense of tension then came to be experienced in the brim of the pelvis, on the left side, and in a few days the whole left inferior extremity became affected with a hot, tense, painful, and colourless swelling.

On the 21st July (4 weeks after delivery) I was requested

by Mr. Cleland, her medical attendant, to see this lady in consultation with him. The pulse was 150, and very feeble. There was constant nausea, vomiting, and diarrhœa. Tongue of a dark brown hue. Great debility. The countenance and whole surface of the body of a dusky colour. Respiration hurried, with frequent cough and expectoration. Occasional delirium. The whole left lower extremity was swollen to more than double the size of the other. The femoral vein, exquisitely tender on pressure, was felt, indurated, and enlarged in the upper part of the thigh, and there was fullness and tension above Poupart's ligament, in the situation of the iliac veins. The foot and ankle pitted upon pressure, but the integuments of the thigh were hot and tense, and did not retain the impression of the finger.

22d. Great prostration of strength. Pulse 160. Respiration laborious. Tongue dry and brown. Diarrhœa and vomiting continue. Is conscious at intervals, and then complains of great pain along the inner part of the left thigh and in the ham. There is also tenderness of the hypogastrium, and sense of throbbing in the direction of the abdominal aorta. Abdomen tympanitic. 23d. Sinking. Cold extremities. Pulse feeble and intermittent. Singultus. 24th, died.

Inspection.—Present Dr. Sims and Mr. Cleland.

The uterus had sunk down into the pelvis, and was as much reduced in size as it usually is four weeks after delivery. The peritoneum at first sight, appeared every where healthy, but on closer inspection an adhesion by means of false membrane was found to exist between the posterior part of the uterus and rectum. More than a pint of purulent fluid was contained between the uterus and rectum. The peritoneal and muscular coats of the fundus and body of the uterus, were so soft as to be readily torn with the fingers, and of an inky black colour. On laying open the

uterus the placenta was found to have adhered to the posterior and inferior part of the womb, and the branches and trunk of the left internal iliac vein were all filled with purulent fluid, and their inner surface lined with a false membrane of a black colour. The coats of the common external iliac, and femoral veins, to the middle of the thigh, were all thickened, and their cavity filled with soft coagula of lymph and pus. The vena cava, to about two inches below the entrance of the hepatic veins, was completely blocked up with a coagulum of lymph, which partially adhered to the inner surface of the vessel. Several glands in the vicinity of the vena cava and iliac veins were in a state of suppuration. The coats of the left internal iliac vein, at its termination in the common iliac, were in a soft shreddy state.

The right common, internal and external iliac and femoral veins were all in a healthy condition.

I have preserved drawings and preparations of the inflamed veins described in all the preceding dissections, and they completely demonstrate the truth of the fact, that the disease usually termed phlegmasia dolens depends on inflammation of the iliac and femoral veins in puerperal women, which commences in the veins of the uterus.

Case XXXIX.—*Inflammation of both hypogastric Veins, Vena Cava, and left common, external, iliac, and femoral Veins after Parturition. Abscess in the muscular Coat of the Uterus.*—Mrs. Wildman, 30 years of age, was delivered, after a natural labour, in the British Lying-in Hospital, on the 27th January, 1832. Obscure, febrile, symptoms took place a few days after delivery; but as there was no pain in the region of the uterus, and the patient would not admit that she was indisposed, I was not called to see her till the tenth day after her confinement. I was then in-

formed that she had been incoherent in the night, and that she had suffered from a long and severe fit of cold shivering. The pulse was 130, and feeble. Tongue of a dark, glossy, red colour; lips parched. Tremors of the muscles of the face and extremities. The countenance of a dusky yellow colour, and expressive of great exhaustion. There was no pain, tension, or swelling in the hypogastrium; but there was exquisite pain on pressure along the course of the iliac vessels on the left side, and down the inner part of the thigh. I now for the first time discovered that the whole left lower extremity was much swollen, hot, tense, and shining.

13th. The swelling of the left lower extremity, and pain in the course of the iliac and femoral veins relieved by leeches and warm fomentations. The pulse is 140, and extremely feeble. Tongue dry and brown, but there is no vomiting, diarrhœa, or distension of abdomen. The conjunctivæ of both eyes have suddenly become intensely red and swollen, and the vision is much impaired, if not lost. Consciousness remains. The right knee-joint is now exquisitely painful when moved, but it is neither red nor swollen. A dark-coloured gangrenous spot has appeared over the sacrum.

14th. Eyes red and enormously swollen, eyelids cannot be closed. Pulse rapid and feeble. Tongue, lips, and teeth covered with sordes. Sevère pain in the right knee and elbow joints and right wrist. Left lower extremity less swollen. Died on the 18th.—The body was inspected at my desire by Mr. Prout, and the following is his report of the morbid appearances.

Inspection.—The uterus had subsided into the pelvis, and no trace of disease was perceptible in the sac of the peritoneum. Both spermatic veins were healthy. The coats of the left common, external iliac and femoral veins

deep and superficial, were all thickened and their cavities plugged up with firm coagula. The same was the case with the epigastric vein and circumflexa ilii. The glands in the vicinity of these veins were enlarged, red and vascular, and closely adherent to the cellular membrane and outer surface of the vessels. The vena cava to a short distance above the entrance of the left common iliac vein, had its coats thickened, and a soft coagulum of lymph adhering to its inner surface.

The uterine, vaginal, gluteal, and most of the other veins which form the left internal iliac, were gorged with pus, and lined with false membranes of a dark colour approaching to black.

The uterine branches of the right internal iliac vein were also filled with pus and lymph; but the inflammation had not extended beyond the entrance of the trunk of the vessel into the common iliac, and the right common external iliac, and femoral veins, were all in a healthy condition.

In the muscular tissue of the cervix uteri on the left side was a cavity which contained ʒiii of purulent fluid. The veins proceeding from this part of the cervix were filled with pus, and a large portion of the inner and muscular coats of the body of the uterus was as soft as lard.

The conjunctivæ, which before death had been red and swollen, were now almost colourless, scarcely a vessel containing red blood being discernible. The deeper seated parts of the eye were not allowed to be examined.

The following interesting case has been recorded by Tommasini.

Case XL.—A lady, æt. 26, who had always menstruated with difficulty, and who had three times born dead children, on the third or fourth day from her last confinement experienced a sense of weight in the left inferior extremity,

with tension and swelling of the thigh, and swollen and painful veins. There was anxiety in the chest indicating the existence of inflammation of the lungs or pericardium. The pulse was frequent, vibrating, and intermitting; countenance anxious; the limb became more swollen; pulse more intermitting. Palpitation of the heart took place, and she died on the 29th day of the disease.

Dissection.—Brain healthy. The veins which arise from the uterus, and also the veins of both lower extremities were morbidly dilated, and filled with grumous blood, having a fleshy appearance; their coats much thickened and the internal injected, so as to present a deep red or blackish appearance.*

Case XLI.—*Crural Phlebitis after Parturition. Symphysis Pubis destroyed by Ulceration.*—Mary Gane, æt. 20, was delivered on the 21st October 1832, of her first child, at her residence near St. Thomas's Hospital. The labour was natural, and she went on favourably until the third day, when she complained of pain and stiffness about the hypogastric and inguinal regions extending down the thighs, with pyrexia and headache. 25th. Increased pain on pressure over the region of the uterus, extending down the right thigh. Pulse frequent; rigors; offensive lochia. 30th. Rigors have been more frequent and severe, with great febrile disturbance. The pain of the uterus has never entirely gone off, and she now suffers severely from pain in the symphysis pubis. 31st. Pain of uterus diminished; but increased tenderness in the right groin extending in the course of the femoral vessels, which are felt hard and cord-like beneath Poupart's ligament, for a space of three inches down the thigh. The limb greatly swollen, and

* Tommasini Saggio di Practiche Considerazioni fatte nella Clinica Medica di Bologna, &c. 1829, p. 320.

œdematous and free from discolouration, except below the ham, where it is of a dark hue from distension of the saphena veins.

1st November. The limb is immensely swollen, but the femoral vein can no longer be felt in the upper part of the thigh; pitting upon pressure in different parts of the extremity; pulse rapid and feeble; tongue foul; diarrhœa; surface covered with perspiration; countenance pale and depressed. 4th. Pulse 130 and feeble; tongue loaded; diarrhœa continues; pain in the uterine region gone. 13th. Pain and swelling have taken place in the course of the left saphena vein; swelling of right lower extremity diminished; pulse 130 and feeble; distressing diarrhœa. The soft parts covering the sacrum have become affected with gangrenous inflammation, and also the right outer ankle and foot, from which there is a dark ichorous discharge. Several large dark-coloured vesicles have also appeared over the limb. Delirium and pain of the chest ensued, and she speedily sunk.

The body was examined on the 14th by Mr. Macaulay and Mr. Dodd, two of the most intelligent pupils in my class, and I am indebted to them for the following account of the morbid appearances. "On examination of the pelvis, it was found filled with purulent fluid which had passed through the symphysis pubis, which was separated to the distance of an inch and a half, and its cartilages completely gone. The right femoral vein was found plugged up with fibrine, and the saphena major filled with pus. Permission could not be obtained to examine the left lower extremity, and to ascertain the condition of the internal iliac veins."

Blood-letting from the arm was had recourse to in the preceding case at the commencement of the attack, without any benefit. Leeches and cupping glasses were also em-

ployed, with warm fomentations; and calomel, Dover's powder, &c. were freely administered.

Section III.

Examples of Crural Phlebitis where Recovery took place.

I subjoin the following cases of crural phlebitis in puerperal women, in order that I may illustrate more fully the phenomena of the milder forms of the disease.

Case XLII.—Mrs. P——, æt. 27, was delivered on the 8th December 1827, after a tedious labour. In a few days, tenderness of the hypogastrium took place; and on the 20th, the pain which had remitted returned with increased violence; and on the 21st, rigors and other symptoms of pyrexia supervened, and the whole right extremity became stiff and swollen.

On the 22nd (fourteen days after confinement) I first saw her. A considerable degree of tumefaction then occupied the extremity, it was however much greater in the leg than in the thigh; and in the former, the integuments were tense and elastic, but pitted slightly on firm pressure along the front of the tibia. In the thigh no effect was produced by pressure. The temperature of the limb was increased There was exquisite pain increased by pressure in the course of the femoral vein, and in the groin this vessel was felt as if enlarged, rolling, hard and incompressible under the finger. The pain extended upwards through the iliac region, along the course of the great vessels, and through

the thigh, ham, and back of the leg towards the foot; pulse 112; skin hot; tongue white; thirst and nausea.

On the 25th, all the symptoms were aggravated, and the tumefaction in the thigh increased. Right labium pudendi much swollen. The integuments pale and shining, and every where pitting upon pressure.

26th. A similar affection commencing in the left extremity, there is pain and sense of numbness in the whole pelvic region. The calf of the leg is slightly tumid and painful. 27th. Fullness and severe pain in the left iliac region. Swelling of the leg, and temperature increased. Exquisite pain on pressure in the course of the femoral vein, through the groin and upper part of the thigh.

28th. Swelling in right extremity diminished. The left extremity is swollen, stiff, hot and painful, and cannot be moved; its integuments are white and pallid and pit on strong pressure. The left labium pudendi is similarly affected. The femoral vein is felt enlarged and indurated in its passage through the groin; intense pain marks its course down the thigh to the point where it leaves the ham; in this latter situation pressure produces much suffering, as it does down the whole posterior part of the leg. The parts of the limb out of the course of this vessel and of the great superficial veins, are comparatively much less painful than on the lower and anterior part of the thigh. The countenance is pale and sunk; the pulse rapid. There is great irritability and prostration of strength.

On the 17th January, the tumefaction and pain had declined in both extremities. The feet were still swollen and painful.

12th February. Has been gradually improving since the last report. There is great weakness in both extremities, but pain is no where felt; and the slight degree of swelling remaining is confined to the left ankle and leg.

No induration is perceptible in the course of the femoral vessels.

The remedial means employed in this case were repeated, local abstractions of blood by leeches, anodyne fomentations and cold lotions. Purgatives and opiates were given according to circumstances, and low diet enjoined during the acute stage of the disease.

I saw this patient on the 3rd of February 1829, and from the state of the veins in the lower extremities, it was evident that both the great crural veins were impervious.

Case XLIII.—A young woman, under the care of Dr. Forbes, was attacked on the 5th day after delivery, with acute pain in the region of the uterus, rigors, and suppression of the lochia. On the 7th, the pain extended into the left groin, and upper part of the thigh, and a considerable swelling took place in the calf of the leg.

On the thirteenth day, subsequent to delivery, (Oct. 5, 1829,) the limb was swollen to nearly double the size of the other; the integuments were hot, but of a pale shining colour, and along the tibia, and upper surface of the foot, they pitted upon pressure. Great pain was experienced on pressing the inner surface of the thigh, ham, and calf of the leg; while no complaint was made of pressure along the outer surface of the limb. The femoral vein, for a space of three or four inches under Poupart's ligament, was painful when pressed, and felt like a hard cord. The branches of the saphena were distended, but not painful. Pulse, 120. Great prostration of strength. Tongue white; thirst, nausea, and vomiting.

A similar affection took place a few days after, in the right inferior extremity, and the femoral vein was also distinctly felt enlarged.

1st November. The limbs are still swollen and painful, but the fever is gone, and her health is returning.

The most marked relief in this case, followed the application of several dozen of leeches, along the course of the crural veins, and fomenting their bites with warm water.

Case XLIV.—On the 17th of January 1831, I was called by Mr. Anson to see a puerperal patient, residing at No. 12, Dorset-street, Manchester-square, who had an attack of crural phlebitis on the left side. The whole extremity was swollen, tense, hot, and colourless. The femoral vein could not be distinctly felt, but there was exquisite tenderness on pressure in the left iliac fossa, and along the course of the femoral vein to the ham. There was no pitting on pressure in any part of the limb, and the power of moving it was entirely lost. Pulse, 120. Tongue foul. Anorexia.

She was delivered three weeks before the commencement of the attack. It was observed, that the pulse continued unusually quick from the time of delivery, till the appearance of the swelling of the limb, which took place on the 16th. The intumescense of the lower extremity was preceded by tenderness of the hypogastrium, and left groin, sickness, and remarkable depression of strength and spirits.

The symptoms were speedily relieved by the repeated application of a number of leeches along the course of the iliac and femoral veins, warm fomentations, &c.

Case XLV. —Mary Eggins, æt. 19, No. 20, Little Marylebone-street, a patient of the Middlesex Hospital, under the care of Dr. Ley, was delivered of her first child on the 26th of November 1831. The labour was natural, and there was no enlargement of the veins of the lower extremities during pregnancy. On the sixth day after delivery, she was attacked with rigors, vomiting, great sensibility of the hypogastrium, and suppression of the lochia.

On the 9th day, pain was experienced in the left groin, and soon after a swelling took place in the calf of the leg and ham, which gradually extended over the whole limb. For seven weeks, the extremity continued swollen to double the size of the other, hot, and painful, and incapable of being extended, or moved.

25th January 1832. The limb is still larger than the other, and pits. She suffers from occasional severe attacks of pain in the lower part of the abdomen, and along the course of the femoral vessels. The superficial veins of the lower part of the abdomen, and upper part of the thigh, are enormously enlarged. Around the ankle there are large clusters of varicose veins. Blisters, which produced extensive ulceration, were applied to the calf of the leg without benefit. The general health is much impaired, and she has only partially recovered the use of the limb.

About the same time, Dr. Ley informed me, that he had seen a case of crural phlebitis in a patient of the Middlesex Hospital, residing at Somers Town, who had been recently confined. The affection of the lower extremity was preceded by unequivocal symptoms of uterine phlebitis.

These cases sufficiently illustrate the phenomena of crural phlebitis in its less severe forms.

Section IV.

History of Crural Phlebitis in Puerperal Women.

Mauriceau was the first author who described this disease, and he referred the swelling of the lower extremity to a reflux upon the parts of certain humours which ought

to be evacuated by the lochia, of which he says, " le gros nerf de la cuisse s'abreuve quelquefois tellement, qu'il en peut rester à la femme une claudication dans la suite." It is not improbable from this expression, that he had felt with the finger the inflamed femoral vein in the upper part of the thigh, which he mistook, however, for a nerve, as some other observers seem to have since done for an inflamed absorbent. Where the disease was accompanied with great fever, difficulty of respiration, pain and tension of the abdomen, Mauriceau considered it dangerous, in proportion to the severity of these symptoms.*

A more full account of the symptoms of crural phlebitis was given not long after by Puzos and Levret, both of whom considered the swelling of the limb to depend on a deposit of milk in the part. Puzos states that it is a painful and protracted but not a dangerous disease, and that it most frequently occurs about the twelfth day after delivery, though sometimes as late as the sixth week. He also observed, that one limb only is at first affected, and that the pain and swelling commence in the groin, and superior part of the thigh, and descend along the course of the crural vessels to the ham, and thence along the calf of the leg to the foot. He observed, likewise, that the disease attacked the other limb, and that it presented the same appearances as the first affected. The extent of the mischief, he remarks, is always readily recognized by a painful cord, formed by the infiltration of the cellular tissue which accompanies the crural vessels. " C'est dans l'aine et dans la partie superieure de la cuisse, que le depot commence à donner des signes de sa presence par la douleur que l'accouchée y ressent; et la douleur suit ordinairement le trajet des gros vaisseaux qui descendent le long

* Traité des Maladies des Femmes Grosses, &c. tom. i. p. 446.

de la cuisse; elle est même plus vive dans tout ce trajet. On reconnoit l'etendue du mal par une espèce de corde douloureuse que forme l'infiltration du tissu cellulaire qui accompagne ces vaisseaux et l'enflure se joint presque toujours à la douleur.* Puzos recommended repeated venesection, cathartics, and sudorifics, and various local applications, as warm cataplasms, fomentations, and embrocations of oil of almonds with ammonia.

Levret's description of crural phlebitis strikingly coincides with that of Puzos. When the disease attacks one side, a tumour more or less considerable, he observes, is found on examination in the iliac fossa. The cord of crural vessels is also painful through a great part of its course, and then the swelling of the limb follows.†

In the copy of Dr. William Hunter's Lectures, taken in 1775, no account is given of this disease, but from the following note, written by Mr. Cruickshanks to Mr. Trye, at the time he was engaged in the publication of his work on the subject, it is evident that Dr. Hunter had seen cases of crural phlebitis, and was convinced that the opinions of Puzos and Levret had no solid foundation. "They have imputed the swelled limb, which happens after lying-in to a depot de lait, but it is not: to something wrong in the constitution; the patient is first seized with pain in the groin, the pulse becomes smart, and the part becomes tender, the pain and tenderness get gradually lower down, and the muscles are stiffened into hard bumps, and an œdema frequently succeeds the inflammatory swelling. It is generally called a cold, but it is not. In some it is over in a short time, in others it will last some months; it generally does well."

In the year 1784, Mr. White, of Manchester, published

* Traité des Accouchemens par M. Puzos, 4to. p. 350. Paris, 1759.

† L'Art des Accouchemens. Levret, p. 932.

an Inquiry into the nature and cause of that swelling in one or both of the lower extremities which sometimes happens to lying-in women, and he suggested or adopted the opinion that the disease depends on obstruction or on some other morbid condition of the lymphatic vessels, and glands of the affected parts. Mr. White saw fourteen cases, but as none of them proved fatal, an opportunity was not afforded him to determine the truth of his hypothesis by an examination of the actual condition of the different textures of the affected extremities.

An Essay on the Swelling of the lower Extremities incident to Lying-in Women, was published in 1792 by Mr. Trye of Gloucester, in which he referred the symptoms to rupture of the lymphatics as they cross the brim of the pelvis under Poupart's ligament. Six cases came under the observation of Mr. Trye, and in all recovery likewise took place. He clearly perceived, although he was not able to explain the fact, that an intimate relation subsists between puerperal fever and the swelled leg of lying-in women. Dr. Ferriar soon after maintained, without the slightest evidence, that there is a general inflammatory state of the absorbents in this disease.

Dr. Hull published an essay on Phlegmasia Dolens in 1800, in which he satisfactorily shewed that it was impossible to account for the phenomena of the disease, on the supposition that the lymphatics were affected independently of a considerable primary affection of the sanguiferous system of the limb. He considered the proximate cause to consist in an inflammatory affection producing suddenly a considerable effusion of serum and coagulating lymph from the exhalants into the cellular membrane of the limb. All the textures, muscles, cellular membrane, lymphatics, nerves, glands, and blood-vessels he supposed to become affected.

It is a remarkable circumstance in the history of crural

phlebitis, that nearly a century and a half should have elapsed, from the time when it was first clearly pointed out by Mauriceau, until an opportunity was presented of ascertaining by dissection the precise nature of the disease. There had indeed been opportunities, as I have shewn, to determine the accuracy of the different hypotheses which had been advanced, but these were neglected, and the seat of the disease, and its commencement in the uterus, were imperfectly understood, until I ascertained, by dissection, the true nature of the complaint.*

In January 1823, M. Bouillaud related several cases and dissections, in which the crural veins were obliterated in women, who had suffered from a swelling of the lower extremities after delivery; and M. Bouillaud distinctly stated, that he considered obstruction of the crural veins to be the cause, not only of the œdema of lying-in women, but of many partial dropsies.†

In May 1823, the valuable Essay of Dr. Davis on Phlegmasia Dolens, was read before the Medical and Chirurgical Society, and subsequently published in the twelfth volume of the Transactions. Although the cases of M. Bouillaud, were published four months before Dr. Davis's Paper was read, it does not admit of dispute, that Dr. Davis was the first, who proved by dissection, that phlegmasia dolens depended on inflammation of the iliac and femoral veins. So early as 1817, a fatal case occurred to him, which was examined by Mr. Laurence, in which the iliac and femoral veins were inflamed and obstructed. Two other cases were recorded by Dr. Davis, and another by Mr. Oldknow, in all of which, there were proofs of the previous existence of inflammation of the crural veins.

For six years after the publication of the cases of M. Bouil-

* Med. Chir. Transac. vol. xv. 1829.

† Archives de Medicine, tom. ii. January 1823.

laud and Dr. Davis, pathologists remained in doubt, whether these cases should be considered as examples of genuine phlegmasia dolens, or be viewed as essentially different diseases, and analogous in their nature to those formidable attacks of phlebitis, which sometimes succeed to venesection and wounds. In opposition to the views of Dr. Davis, it was urged, that if phlegmasia dolens depended on inflammation of veins, three out of four patients would die; whereas, death does not take place in one case in the hundred, where that disease is distinctly marked. Dr. Davis has communicated no additional information on the subject since 1823, and he is still of opinion, that the inflammation commences in the common iliac, and not in the veins of the uterus, and that the disease is produced by the pressure of the gravid uterus during pregnancy.

In none of the cases of Dr. Davis does it appear, that any attempt was made to trace the hypogastric veins to the uterus, though it is now certain, from what is known respecting the progressive changes witnessed in cases of phlebitis, that the alterations of structure which he has described in the common and external iliac, must have originated in the veins of the uterus.

Thus, then, none of the writers, who have been hitherto quoted, have made *any* allusion to phlegmasia dolens commencing in the *uterine veins*, and even M. Velpeau, the *latest* continental author on the subject, has given it as his opinion, that the affection of the veins is not the primitive disease, but is the consequence of the inflammation and suppuration of the articulations of the pelvis, with which he observed it to be frequently combined. The puriform fluid found within the veins, he supposes to have been introduced into their cavity by absorption, and not to have been the effect of inflammation, nor the cause of those affections of the articulations, which is now known to be the case.

How far this opinion was incorrect, I need not now point out to the reader.

It is due to Mr. Guthrie to mention, that in a Paper on Inflammation of Veins after Amputation, published in the Medical and Physical Journal for 1826, he suggested the importance of tracing the veins from the common iliac of the affected side down to the uterus, and expressed a suspicion that the disease would be found to originate in that organ.

All the authors who have treated of phlegmasia dolens, describe it as commencing in the great majority of cases, subsequent to the tenth day after parturition, with symptoms of uterine irritation, and constitutional disturbance of a low typhoid character, and with pain and swelling in one extremity only. They have assigned various reasons for these remarkable peculiarities, in the period and mode of development of the disease, as pressure of the gravid uterus on the iliac veins during gestation, the change in the distribution of the blood from the sudden removal of this pressure, exposure of the extremity to cold, suppression of the lochia, deposits of milk in the limb; all of which, taken singly, or combined, are insufficient to account for the phenomena, and the occurrence of the disease after menstruation, abortion, and the malignant affections of the uterus proves, that these causes are neither necessary, nor sufficient for its production.

The facts which have been stated in this chapter, offer a more satisfactory, and I trust, conclusive explanation of the phenomena. They demonstrate, that if inflammation be excited in the uterine branches of the hypogastric veins, it may continue to spread along these, until it reaches the common, external iliac, and femoral veins, and by the morbid changes induced in them, give rise to all the subsequent symptoms.

* Archives de Medicine, tom. vi.

Section V.

Of Crural Phlebitis in Women who are not in the Puerperal State.

The following cases will shew that inflammation of the iliac and femoral veins is a disease not peculiar to women who have recently been delivered, but that it may also arise from suppressed menstruation, malignant ulceration of the os and cervix uteri, as well as some other organic diseases of the uterine organs.

Case XLVI.—May 1828. I was requested by Mr. Prout to see a young woman, in whom violent fever had followed the sudden suppression of the menses. There was great tenderness of the hypogastrium, and left thigh, a rapid feeble pulse, delirium, brown tongue, vomiting and diarrhœa, exquisite pain in several of the joints of both the upper and lower extremities, and some abscesses had formed in the muscular parts of the body. I was not permitted to examine the body after death, but from what I have since seen, I cannot entertain a doubt that the symptoms were produced by uterine and crural phlebitis.

Case XLVII.—In the Autumn of 1831, I saw a young lady, in consultation with Mr. Jones of Carlisle-street, Soho, who was suffering from an attack of crural phlebitis of the left side. The whole left inferior extremity was swollen, tense, hot, and painful; but not discoloured. The femoral vein was felt under Poupart's ligament like a large, hard, cord, and pressure over it and along the course of the iliac veins of the same side produced great suffering. The limb

was completely deprived of the power of moving. The thigh did not pit upon pressure, but the integuments of the leg retained the impression of the finger. The tongue was white; the pulse rapid; and there was great irritability of stomach and depression of strength. This attack was referred to the sudden suppression of the catamenia from the application of cold and wet, which was followed by great uterine tenderness. The acute symptoms were soon subdued by leeches and warm fomentations, to the limb: but the extremity remained weak for some months after.

A young woman under the care of Dr. Watson, last year, died in the Middlesex-Hospital from tubercular disease of the lungs. A swelling of the left lower extremity, similar to phlegmasia dolens had taken place some time before death. The uterus was found on dissection to be diseased on the left side. The left common iliac, and femoral veins had been inflamed, and the left internal iliac was converted into a solid ligamentous cord. It was evident that the affection of the vein had originated in the uterus.

Tommasini has related the following interesting case.

Case XLVIII.—*Inflammation of the Iliac and Crural Veins, from Exposure to Cold during Menstruation.*—A lady, æt. 31, had the catamenia suddenly suppressed from immersion of the body in cold water. Headache and swelling of one of the limbs took place, and in three months she was attacked with great anxiety, prostration of strength and spirits, and other signs of a severe disease. The pulse was frequent and irregular, and there was great anxiety in respiration; the blood drawn was buffy. Phlebitis of the inferior extremity manifested itself. The pulse became intermittent, the veins of the limb painful and turgid, and the skin covered with spots of a dark colour. The sense of

oppression increased, and death took place about four months after the suppression of the catamenia.

Dissection. — The lungs were inflamed. In the limb affected, the saphena, sural, popliteal, crural and iliac veins, had their coats thickened, injected and filled with coagula of blood, which in some parts of the crural veins appeared to be changed into a fleshy substance. The coats of the iliac above the crural arch to the bifurcation of the vena cava, were much thicker than the other veins, and more injected without any manifest collection of purulent matter. The arterial system was healthy; the condition of the uterine veins the author has not, however, described.*

Case XLIX.—In the month of May, 1831, I saw a woman, æt. twenty-two years, in the Middlesex Hospital, who was under the care of Sir Charles Bell. The superficial veins of the left lower extremity were greatly distended, and the thigh, leg, and ancle, were swollen and œdematous; there was great tenderness on pressure along the brim of the pelvis, and in the course of the femoral and saphena veins. The right inferior extremity was in the natural state.

About six months before, she had experienced a fall, in which the lower part of the spine had violently struck the ground; since that time, there had been constant pain in the back, with irregular menstruation and prolapsus uteri. Soon after the accident, she also began to suffer from pain along the brim of the pelvis on the left side, extending downward under Poupart's ligament along the thigh in the course of the femoral vessels. The veins of the lower ex-

* Tommasini Saggio di Pratiche Considerazioni fatte nella Clinica Medica di Bologna. 1829. p. 317.

tremity in a short time began to enlarge, and also the whole limb became swollen, painful, and œdematous.

Case L. — On the 18th May, 1832, there was a young unmarried woman in the Middlesex Hospital with varicose veins, and extensive swelling of the left lower extremity. The uterine functions had been irregular for many months. There was also great tenderness on pressure in the course of the iliac and femoral veins to the middle of the thigh, and little doubt could be entertained that these veins were inflamed and obstructed.

The following observation renders it probable, that uterine phlebitis had followed an abortion. On the 27th October, 1831, I examined the body of a woman who had died of uterine inflammation seven days after delivery. In the veins proceeding from the cervix uteri on the left side, three phlebolites were found, and other evidences of previous inflammation of the coats of the veins. Seventeen months before death, abortion took place which was followed by great tenderness of the hypogastrium, and the constitutional symptoms which characterize inflammation of veins.

Last Autumn, Mr. Babington, Surgeon to St. George's Hospital, removed a polypus of the uterus by ligature. Symptoms of uterine phlebitis followed, and the woman died in a few days; and on examining the body, the veins of the cervix uteri were seen distended with pus. I am indebted to Mr. Henry Johnston, House Surgeon to the Institution, for an account of the case, and for an opportunity of examining the uterus and polypus.

Case LI.—Last September, a lady about forty years of age, who was under the care of Dr. Copland, after being exposed to cold had a violent attack of inflammation of the

bowels, for which copious venesection was required. Great tenderness in the hypogastric region with pyrexia continued for sometime after, when she began to suffer from pain in the situation of the left crural veins. The whole lower extremity became affected with a hot, tense, and painful swelling, as in puerperal crural phlebitis. The affection had scarcely begun to subside in the left extremity when she began to experience pain and tension above Poupart's ligament, on the right side, and the right thigh and leg became also affected with a hot, painful, colourless intumescence. I saw this lady in consultation with Dr. Copland, when the right extremity had become affected, and the disease did not differ in any respect from the crural phlebitis of lying-in women. By the repeated application of leeches, fomentations, &c., the acute symptoms were soon subdued, but the feet and ankles are still weak and œdematous.

Section VI.

Crural Phlebitis from malignant Ulceration of the Uterus.

Case LII.—*Inflammation of the uterine Veins, with carcinomatous Ulceration of the Os and Cervix Uteri.*—A lady, who had been suffering for some time from cancer of the os uteri, was seized on the 9th May, 1829, with frequent vomiting, diarrhœa, and unremitting severe pains in the uterus. She became sallow and emaciated, aphthous ulceration of the mouth took place, and she died at the end of June. The body was inspected by Mr. Griffith.

The anterior lip of the os uteri and a part of the cervix

had been destroyed by a malignant ulcer. The upper part of the vagina was also ulcerated. The uterine branches of the left hypogastric vein were distended with coagula of lymph, and their internal surface was of a bright red colour. The left spermatic vein, to a distance of two inches from the uterus, was coated with a thin false membrane, and plugged up with coagula of lymph, in the centre of which was a yellow pultaceous matter. The veins running along the side of the body of the uterus, and forming the communication between the spermatics and hypogastric veins of the left side were in the same condition, and distended like hard cords. The veins of the right side of the uterus were similarly affected, but in a much slighter degree. All the other viscera were healthy.

I was indebted to Dr. Ley, who had been consulted in this case, for an opportunity of examining the parts after death, at the Middlesex Hospital. I was not before aware of the fact that uterine phlebitis might be excited by malignant ulceration of the os uteri, nor have I since been able to discover that any writer had previously mentioned the circumstance. Soon after, the following case occurred, which clearly proved not only that inflammation of the veins of the uterus might be produced by this cause, but that the inflammation might extend along the internal to the common, external iliac, and femoral veins, and give rise to the same symptoms as those observed in cases of puerperal crural phlebitis.

Case LIII. — *Inflammation of the left Iliac, and Femoral Veins, with Phagedenic Ulceration of the Uterus.*—On the 27th of July 1829, I was invited by Dr. Girdwood, of Paddington, to be present at the examination of the body of a woman, æt. 60, who had died two days before of a malignant disease of the uterus, of several years' duration. Five

weeks before her decease, symptoms of crural phlebitis had appeared in the left inferior extremity. She complained of great pain in the thigh, and the limb had become swollen to nearly double the size of the other, without any discolouration of the integuments.

On opening the abdomen, the peritoneum covering the intestines and liver, was found to be severely inflamed with an effusion of sero-purulent fluid into the abdominal cavity. The os, cervix, and a great part of the body of the uterus, had been destroyed by phagedenic ulceration, and extensive openings formed in the bladder and rectum. On the left side, between the remaining portion of the uterus and the pelvis, to the brim of which it firmly adhered, was a spongy cancerous mass, inclosing within it, the branches and trunk of the hypogastric vein and artery, and a considerable portion of the common, and external iliac veins. When cut into, it presented a spongy texture, and a thick whitish purulent fluid escaped, as if from numerous cells, but which were subsequently ascertained to be cavities of veins. A portion of the common, and external iliac veins, was lost in removing the parts from the body, what remained of the common iliac, was reduced to a slender tube, which was partially coated on the inner surface with an adventitious membrane of a black colour.

The commencement of the external iliac was also contracted, so as to be impervious, and lined with a dark-coloured false membrane. The common, superficial, and deep femoral veins, were all plugged up with firm red coagula, the coats thickened, and the inner surface lined with adherent false membranes. The cellular texture of the limb was loaded with serum, but in other respects it was healthy, as were the other tissues.*

* Soon after the occurrence of the preceding case, which I related to Dr. Merriman, he pointed out to me the following passage, in which Dr. Willan

CASE LIV.— *Inflammation of the Vena Cava, left common, internal, and external Iliac, and Femoral Veins, produced by malignant Ulceration of the Uterus.*— On the 25th of March 1830, with Dr. Girdwood and Mr. Prout, I examined the body of a woman, æt. 50, who had died of carcinoma uteri, in whom, four weeks previous to her decease, the usual symptoms of phlegmasia dolens had appeared in the left lower extremity. There was great tenderness in the course of the femoral veins, and along the inner surface of the thigh and leg to the ankle, and the whole extremity had become tense and swollen. The temperature of the surface was increased, but there was no unusual redness of the skin, and pitting on pressure could only be produced around the ankle, and on the upper surface of the foot.

The upper part of the vagina, os, and cervix uteri, were destroyed by cancerous ulceration, and a large opening formed between the vagina and rectum.

The trunk and branches of both internal iliac veins, were partially inclosed in masses of indurated cellular, and adipose substances, and inflamed through their whole extent. On the right side, the inflammation terminated abruptly at the junction of the internal with the common iliac vein. The right common, and external iliac veins, were healthy.

The left internal, common, and external iliac, and femoral veins, were all plugged up with firm coagula, and lined with false membranes. The vena cava, from the junction of the common iliac veins, to the entrance of the venæ cavæ hepaticæ, was occupied and distended with a soft coagulum, which at the upper part had the appearance of a clot of blood, and did not adhere to the lining membrane of the vein. The inferior half of the vena cava, was filled with a

has stated on the authority of Dr. Sims, " that the schirrus, or cancer of the uterus, which produces an offensive discharge from the vagina, is sometimes attended with an œdema, similar to that in puerperal cases." — Willan's Reports of the Diseases of London.

firm coagulum of lymph, which closely adhered to the vessel. This coagulum, which was soft and pultaceous in the centre, was continuous with that in the left common iliac vein.

Other three cases of crural phlebitis, from malignant ulceration of the os uteri have since been observed by me; and Dr. Blundell has related to me the particulars of a fourth, which occurred in a lady at Clapham, who had a malignant fungous growth of the uterus. A ligature had been applied around the root of the tumour, but the progress of the disease was not arrested, and the affection of the lower extremity took place soon after.

In the sixteenth volume of the Medical and Chirurgical Transactions, p. 59, 1830, another well-marked example of this affection has been related by Mr. Laurence, under the following title: "Case of Phlegmasia Dolens, caused by Inflammation of the Veins of the lower extremity, excited by malignant Ulceration of the Cervix Uteri." Mr. Laurence observes, "As the following case confirms the interesting and important observations respecting the nature and causes of phlegmasia dolens, lately communicated to the Society by Dr. Robert Lee, I sent the particulars to him. They were too late for insertion in his Paper, which had been already printed; at his request, therefore, I present them to the Society in a separate form.

Case LV.—"Anne Dawson, forty years of age, a married woman, who had borne several children, was received into St. Bartholomew's Hospital under my care on the 12th November 1829. Her complexion was sallow, and the expression of the countenance altogether very unhealthy. She had pain in the loins, frequently shooting towards the hypogastric region, which was tender on pressure, costive bowels, restlessness,and sanious discharge from the vagina. She had not menstruated for several months. For the last

six months she had laboured under incontinence of urine, she had perfect use of her legs, and full power over the sphincter ani. There was no tenderness in the region of the spine. Instead of the os tincæ and cervix uteri, a large irregular ulcerated excavation was found at the posterior end of the vagina. Anodynes and the occasional use of castor-oil were directed, and afforded some relief.

"About the 20th November, increased uneasiness was experienced in the lower part of the abdomen, with feverish symptoms not of a severe description; the pulse was sharp and frequent; the tongue white; the skin warm; and the countenance slightly flushed. The right lower extremity swelled in its whole extent, with some increase of heat and pain on motion, which was performed with difficulty. The colour of the limb was not altered; the swollen part of the thigh was tolerably firm; the lower part of the leg and foot pitted upon pressure. There was pain in the course of the femoral and iliac vessels; and the internal saphena vein could be traced at the upper part of the thigh by a hardened knotty feel. I considered the disease to be essentially the same as phlegmasia dolens occurring in women recently delivered; there could be no doubt that the large veins of the thigh were inflamed, and the observations I had heard from Dr. Lee, led me to conclude, that inflammation had been excited in the veins of the uterus by the disease in its cervix, and had extended from them to the iliac and femoral venous trunks. Violent hemorrhage from the uterus came on early in the morning of the 18th December, which was speedily fatal.

"*Examination.*—When the body was examined, the second day after death, the fundus of the uterus was found moderately enlarged and firm; the cervix had been destroyed by that kind of phagedenic ulceration, which is usually called cancer of the uterus. The rectum and sigmoid flexure of

the colon adhered firmly to the uterus; and, but for this adhesion, the ulceration would have penetrated the cavity of the abdomen. The cellular and adipose substance round the lower part of the uterus, and neighbouring portion of the vagina were thickened and indurated, particularly on the right side. The hypogastric vein, involved in this diseased mass, was closed, in consequence of previous inflammation of its coats; and the same change had occurred in the internal iliac, the common iliac, the external iliac, the femoral and profunda veins, as well as in the internal saphena; all of which were completely impervious. The affection terminated above at the junction of the common iliac vein, with that of the opposite side; the latter vessel and the inferior cava being quite natural. The saphena was closed for a length of about four or five inches, beyond which it was natural. The profunda was cut through near the femoral vein, and the latter was divided as it passes the tendon of the triceps. The disease extended in both these vessels beyond the situations where they had been divided; but its inferior limits were not ascertained. The right spermatic vein was closed in its lower half. The coats of the affected vessels and the surrounding cellular substance were a little thickened, and their cavities were plugged by a closely adherent and tolerably firm substance of a light brown colour. At some parts, the vessels and their contents were of a dark livid hue. The examination of this case fully confirmed the opinions which had been entertained during the patient's life; viz. that the swelling of the lower extremity arose from inflammation of the large venous trunks, and that the latter affection was owing to extension of disease from the hypogastric veins, in which it had been excited by ulceration of the uterus. Although the inflammation of the veins had been extensive, it yielded readily to mild antiphlogistic means; and the inflamed ves-

sels had already advanced considerably towards that natural cure which is accompanied by obliteration of the cavity. This progress is interesting in another point of view: it shews that the disease of the vessels, although excited by a specific malignant affection, was simple or common inflammation."

Section VII.

Of Crural Phlebitis in Men.

It has been ascertained that this disease, in the male sex, may commence either in the hemorrhoidal, vesical, or in some of the other branches of the internal iliac veins, in consequence of inflammation or organic changes of structure in one or more of the pelvic viscera. Crural phlebitis in men, arises much more frequently, however, from inflammation being excited in the superficial veins of the leg, extending upward and involving the great venous trunks of the thigh and pelvis. External injuries, exposure to cold and moisture, and ulcers, are the most frequent causes of inflammation of the saphena veins. Amputation may also excite crural phlebitis, both in the veins of the same side and in those of the opposite extremity. Tumours, by pressing upon the vena cava and iliac veins, may also give rise to the disease.

The following cases will illustrate, though in a less perfect manner than might be desirable, this interesting part of the pathology of veins.

Mr. Laurence examined the body of a man who died in

Saint Bartholomew's Hospital of cancer of the rectum, and he found the iliac veins inflamed and obstructed.

In two cases of crural phlebitis, related by Mr. Holberton; the patients died of phthisis, with diarrhœa and ulcerations of the bowels. In the first case the examination was imperfect, but in the second, the left hemorrhoidal veins, the commencement of which I traced close to the spots of ulceration in the mucous membrane of the rectum, contained phlebolites, and exhibited other marks of previous inflammation.*

In Dr. Forbes' case of phlebitis, the patient also died of phthisis, and he suffered severely from diarrhœa. The internal iliac veins were not traced to the rectum; but Dr. F. has recently stated to me his belief, that the mucous membrane of the lower bowels was ulcerated.†

Dr. Cheyne observes, in his report of the Whitworth Hospital, which contains an account of dysentery, that "it is worthy of remark, that a swelling occurred in several of the patients, both males and females, resembling the phlegmasia dolens in all respects but in its connection with parturition."

Dr. Tweedie has related cases of fever which were followed by painful swellings of the lower extremities; which also, in all essential circumstances, resembled phlegmasia dolens, but no opportunity occurred to examine the veins by dissection in these cases.‡

Drs. Graves and Stokes have also related cases of painful swellings of the lower extremities after fever, which presented all the usual symptoms of phlegmasia dolens, and were considered by them to be identically the same diseases. In both they remark, œdema occurred, unattended by red-

* Med. Chir. Transact. vol. xvi. part i. p. 70.

† Med. Chir. Transact. vol. viii. p. 293.

‡ Edin. Med. and Surg. Journal, No. 97.

ness, but accompanied by increase of heat, with great tenderness and pain, and followed for a considerable time by impaired motion of the limb. In both diseases the swelling and the other symptoms are frequently not confined to any one portion of the extremity, but extend uniformly over the leg and thigh. In both diseases, however, we have also often observed, that the pain, heat, and swelling, occupied particular parts of the limb while the rest was comparatively free from disease. Thus, in some cases, a portion of the thigh was extensively engaged, while the leg and foot remained in the natural state; and after some days, the diseased action seemed to change its place, and successively attacked the other portions of the limb, without however, any precise order in the mode of succession.*

In Dr. Cheyne's cases of dysentery, it is highly probable, the disease commenced in the hemorrhoidal veins; and from the frequent occurrence of inflammation and ulceration of the intestines in continued fever, I am disposed to think the affection had the same origin in the cases of Drs. Tweedie, Graves and Stokes.

A man whose case is recorded by M. Cruveilhier, in his eighth fasiculus, p. 16, had a sound introduced into the bladder for retention of urine, occasioned by a swelling of the prostate. Pain came to be experienced in one of the lower extremities, the veins were observed to be painful and distended like hard cords. The patient died, and all the different degrees of phlebitis were observed in the veins of the limb. There can be little doubt, M. Cruveilhier observes, that inflammation of the prostatic or vesical veins had been induced by the introduction of the instrument in this case, but the examination not having been conducted with a view to ascertain this point, it was not positively determined.

* Dublin Hospital Reports, vol. v. p. 29.

In the following cases, crural phlebitis in the male and female commenced in the saphena veins. The first case I saw in consultation with sir Gilbert Blane and Mr. Copland Hutchinson, and there could be no doubt that the great veins of the extremity were inflamed and obstructed. Mr. Hutchinson has given the following history of this interesting case in the fifteenth vol. of the Medical and Chirurgical Transactions.

Case LIV.—October 19th, 1829, Mr. B. lately returned from the Isle of France, where he had resided upwards of twenty years, received a blow on his right shin, immediately over a branch of the saphena vein, by a small piece of timber accidentally falling upon it. The scar is very slight, though the injury and its results appear to have been severe, and the patient states that the accident was followed by considerable swelling and inflammation all over the limb, and that the abraded surface was very long in healing. Mr. B. says he felt pain in the direction of the upper third of the saphena before it actually dips to unite with the femoral vein. The whole leg and thigh soon became enlarged and inflamed, the former partly œdematous; and although the patient states the disease to be slowly on the decline, yet the enlargement of the leg and thigh still continues, and he has pain from the groin to the heel and sole of the foot, principally in the direction of the branches of the saphena, with a slight blush of redness over the fore part of the leg, where the original injury was received: but while the member is kept in the horizontal position he is nearly free from pain.

I have traced the upper portion of the saphena vein, and find it to be a complete ligamentous cord for eight or ten inches, but the femoral vein seems to me to have hitherto escaped the diseased action. The patient has no pain or

uneasiness within the pelvis, and his general health is good. It should be stated, however, that the testis of that side is slightly enlarged, but not indurated.

Sir A. Cooper performed an operation for varix of the saphena vein, which was followed by inflammation of the coats of the vessel and all the symptoms of phlegmasia dolens.

Case LV.—The following fatal case has been related by Drs. Graves and Stokes. A young man of a strong habit was employed for two successive days in working in a ditch, and was consequently obliged to stand in water above his knees during that time. On the following day he became affected with lassitude, vertigo, and general weakness, and complained of severe pain in the right thigh. These symptoms continued for seven days, when he was admitted into the Meath Hospital. His countenance was anxious and depressed. The tongue furred, thirst, headache, urine scanty, turbid, and high coloured. Pulse 96. Skin mottled with petechiæ. In addition to these general symptoms, the respiration was laboured and unequal, with some cough; face very livid. But his chief complaint was a severe pain in the upper and anterior part of the right thigh, which was greatly aggravated by motion or pressure. He had also severe pain in the left hypochondrium.

At this time no swelling of the limb whatever could be detected, but in the course of two days the upper portion of the thigh became evidently swollen, the part being extremely tender, but not at all red. The pain of the side continued, and extensive bronchial and pneumonic inflammation was detected. General bleeding and very free leeching to the limb was employed. The blood was not inflammatory, and no relief was experienced by the patient. The swelling of the thigh increased, calomel and opium were freely exhibited but without any effect. The typhoid

symptoms increased, and the patient died on the fourth day after his admission.

On dissection the right lower extremity was found to be tense and swollen in its superior portion, while the leg and foot were slightly anasarcous. The sac of the pericardium contained some sero-purulent fluid, and that portion covering the auricles and great vessels was vascular, and in many places covered with coagulable lymph. Both lungs were in a state of extreme sanguineous congestion, with commencing solidity in their posterior inferior portion, and general inflammation of the pleura. The bronchial mucous membrane was universally red, and the tubes filled with frothy mucus.

The vena cava contained a few portions of a substance of a granular appearance, friable and of a yellowish colour. This did not adhere to the vessel, which otherwise appeared healthy. In the external iliac vein, however, just above Poupart's ligament, a large concretion of a similar nature, nearly plugging up the vessel and extending into some of the minute collateral branches. The lining membrane red, and in one point adhered to the coagulum. No puriform matter could be detected. The femoral and popliteal arteries were healthy. The cellular tissue of the limb was œdematous.

The condition of the saphena vein where it enters the femoral is not described, although the inflammation most probably originated in the superficial vessel.

On the 2d of February, 1832, the body of an aged man was brought into the dissecting-room of the school of Webb-street. The whole left inferior extremity was much swollen, and a chronic ulcer was observed over the tibia. The coats of the saphena vein, along the leg and thigh, were found, on examination, to be much thickened, and plugged up with coagula of blood and lymph. The left common, and ex-

ternal iliac, and femoral vein to the ham, were all completely obstructed with coagula of blood and lymph, and lined with adventitious membrane. The lower part of the vena cava, to the extent of three inches, was filled with a soft, yellowish, coagulum of lymph, which adhered to the inner coat of the vein. The coats of the principal arteries of the left lower extremity were ossified.

On the 30th April, 1832, Sir Henry Halford read an interesting account, at the College of Physicians, of crural phlebitis, as observed in the late Earl of Liverpool. The attack commenced many years ago, and it is probable, from a circumstance stated to me by Sir A. Cooper, that it was induced by exposure to a current of cold air, which passed through an open window and fell upon the lower extremities, when but thinly clothed, while his lordship was attending a crowded levée. Dr. Pemberton and Sir A. Cooper, who were in attendance, treated the case with leeches, and the usual antiphlogistic remedies. After Dr Pemberton's death, Sir H. Halford was consulted. He found the disease affecting the left groin and thigh, and extending into the leg. Nothing further was found remarkable except the slowness of the pulse, making about forty-four beats in a minute. On communicating the fact to Sir A. Cooper, that eminent surgeon ingeniously conjectured that this anomaly was due to the obliteration of the iliac vein. His lordship subsequently found the sight of the left eye affected, and soon after he had a series of attacks of apoplexy, one of which proved fatal. The post mortem examination, Sir Henry Halford observed, afforded a curious confirmation of Sir A. Cooper's conjectures, for the left iliac vein was found completely impervious. On examining the brain, a large cavity filled with serum was found over the right ventricle. Sir Henry related other two cases of phlegmasia dolens in men. They were similar to

the case of the Earl of Liverpool, and were succeeded by marked tendency to head affection.

Sir A. Cooper gave me an opportunity to examine the iliac veins, and they appeared to have undergone similar changes of structure as in crural phlebitis of puerperal women. I have never observed any remarkable slowness of the pulse even in cases where the vena cava has been completely plugged up. It is probable that the slowness of the pulse in Lord Liverpool was produced by the disease of the brain, and not by the obstruction of the iliac veins.

Case LVI. — *Inflammation of the Saphena and Femoral Veins terminating fatally.* — Mrs. Mills, æt. 30, a patient of the British Lying-in Hospital, was delivered of her fourth child on the 7th instant, after a natural labour. During the latter months of gestation, she had suffered much from œdema, and a varicose state of the veins of the lower extremities. Two days after her confinement, she began to complain of pain in the superficial veins of both legs, and during the subsequent week, a diffuse swelling and erysipelatous redness of the surface took place in the calf of the left leg, and in a less degree in that of the right. This was accompanied with violent febrile disturbance.

I first saw her on the 16th instant, the seventh day after the commencement of the disease. The pulse was 100; tongue red; countenance flushed; skin hot; and respiration hurried, with much jactitation and delirium.

The left lower extremity, now chiefly affected, presented the following appearances: — from the knee to the ankle, on its inner surface, the integuments were hot, swollen and tense, and in several places, large patches of a dark red colour observed over the veins, which being laid open in two places, a considerable quantity of purulent fluid was discharged. Where the swelling and tension were least,

the superficial veins could be felt distended like hard cords, as could also the saphena, through its whole course upward, from the ham to its junction with the femoral vein. In the course of this vein there was considerable swelling, and the integuments in this situation, as far as the middle of the thigh, were hot and of a dark red colour.

The right leg was similarly affected, but in a very inferior degree to the left.

17th October. Pulse, 120. Little marked change in the general symptoms. Left thigh much more swollen, and the saphena vein now painful, indurated, and enlarged. Above the ankle, other two abscesses have formed, and been opened. A small abscess has also formed above the knee of the right extremity, which in other respects is improving.

19th. The left extremity, from the ankle to the groin, is in its surface more swollen and painful, and the saphena vein can be felt still more enlarged. The abdomen is tympanitic, and exquisitely sensible on the left side, when pressed. Pulse, 160; subsultus tendinum; urgent thirst; tongue brown and parched; skin hot; countenance flushed and anxious; delirium diminished. During the succeeding three days, there was a gradual exacerbation of all the symptoms, and she died on the 23d instant, being the fourteenth day from the commencement of the symptoms.

My friend, Dr. Sims, assisted me to inspect the body on the 24th, when the following morbid appearances were observed.

The extremity was very much enlarged. The cellular and adipose membranes, from Poupart's ligament, along the inner surface of the thigh and leg to the ankle were indurated, vascular, and infiltrated with a red-coloured serous fluid. Several abscesses were observed in the cellular membrane immediately beneath the skin in the calf of the leg, and an extensive collection of pus had formed in the inter-

stices of the gastrocnemic muscles. The branches of the saphena in this situation were converted into solid impervious cords, and the coats of this vein, to its junction with the femoral, were thickened and contracted, and in the lower part the cavity was nearly obliterated. The saphena vein was lined with an adventitious membrane of considerable thickness, which was easily separated from the inner coat. Its opening into the femoral vein, though reduced in size, was pervious, and the coats of the deep femoral vein, from this point to the ham, were thickened and contracted. The inner membrane was rugous, and of a deep red colour; but no deposit of lymph was observable, and its canal was pervious.

The femoral vein above the termination of the saphena, and the whole of the external iliac were thickened, and slightly contracted in their diameters, and lined with a thin coating of lymph. These vessels were pervious, and the common and internal iliac exhibited no sign of disease.

The intestines were inflamed, and on the ascending colon, there was a small part in a state of sphacelus.

Case LVII.—*Inflammation of the Saphena Veins of the left lower extremity, extending into the Iliac and Femoral Veins, excited by a superficial Ulcer over the Internal Malleolus.*—Mrs. N——, æt. 37, 1st of July 1830. Three months ago a small ulcer appeared above the left internal malleolus, with much inflammation of the surrounding integuments. A varicose state of the veins of the leg had existed some time before. The ulcerations were healed in three weeks; but the saphena veins, along the inner surface of the leg, knee, and thigh to the groin, became hard and exquisitely painful. This painful condition of the veins has been gradually increasing, and a general hot and colourless intu-

mescence of the whole limb has taken place. The veins around the ankle can now be felt, indurated and knotted, and in three points, along the front of the tibia, there is a circumscribed hardness, with intense redness of the integuments. There is exquisite pain on pressure, along the whole course of the saphena vein in the thigh. The femoral vein, three or four inches under Poupart's ligament, is hard and painful, and pain is experienced on pressure, along the brim of the pelvis. The hypogastrium, more particularly on the left side, is tense and swollen, and she complains of a distressing sense of pulsation, or throbbing, in the lower part of the abdomen. For several days there has been retention of urine. The countenance is anxious and depressed. There are tremors of the muscles of the face and extremities. Tongue furred. Occasional retching. Urgent thirst. Respiration hurried. Slight cough. Pulse, 120.

4th. The limb is less swollen, but there is still great tenderness in the left side of the hypogastrium, and along the inner surface of the limb. Constitutional symptoms somewhat relieved. Great prostration of strength.

27th. Leeches, &c. have been repeatedly applied along the course of the affected vessels, and the tenderness is now much relieved. Sickness, with foul tongue, and quick pulse, continues.

14th of May 1830. Health improved. There is considerable enlargement of the affected extremity, and there are large clusters of purple veins around the ankle. There is now a hard tumour of considerable size in the situation of the left ovarium, and she has lately suffered much from prolapsus uteri, and uterine irritation, with leucorrhœa. She menstruates regularly. The right lower extremity natural.

18th of October 1831. There is much hardness and tenderness, on pressure, in the situation of the left femoral

vein. The extremity is still swollen, of a deep purple colour, and the foot and ankle covered with enlarged veins. The abdomen is swollen, but no fluctuation is perceptible.

I was indebted to the kindness of Dr. Ashburner for the opportunity of observing the progress of the preceding case.

CASE LVIII.—*Inflammation of the Vena Innominata and Subclavian Vein.*—In a young woman, affected with an organic disease on the right side of the lungs, who was under the care of Dr. Sims, a swelling took place in the corresponding superior extremity, which he informed me had all the characters of genuine crural phlebitis. On examining the body after death, Dr. Sims found an extensive malignant disease connected with the right superior lobe of the lungs. The coats of the vena innominata and subclavian vein were thickened from inflammation and their cavities plugged up with lymph. The inflammation had not passed into the internal jugular, but had stopped at the valve placed near the entrance of this vein into the subclavian.

Sir Charles Bell has informed me, that he has observed upwards of twenty cases of painful swellings of the superior extremities in women afflicted with cancer of the mammæ. He has been accustomed to refer these swellings to obstruction of the lymphatics or to compression of the veins by the induration and enlargement of the glands of the axilla. No opportunity has yet occurred to determine by dissection whether or not the painful swelling of the arms is to be attributed in such cases to inflammation and obstruction of the veins; but this has been rendered probable by the facts already related respecting the effects produced on the iliac veins by malignant ulcerations of the uterus. It is rendered still more probable by the following observa-

tion of Laennec. "That it is not uncommon to find the veins in the neighbourhood of a cancerous breast filled with pus, either pure or mixed with blood; sometimes fluid, at other times more or less inspissated, and occasionally of the degree of consistence of an atheromatous tumor."*

Section VIII.

Treatment of Crural Phlebitis in Puerperal Women, &c.

Puzos recommended repeated and copious venesection for the treatment of this disease; but in all the cases which I have witnessed there has been so much feebleness of pulse, and prostration of strength, that I have not ventured to draw blood from the arm. There are cases, however, occasionally met with, where the symptoms are immediately relieved by a general bleeding. An example of severe crural phlebitis after delivery recently occurred in the practice of a medical friend, where the abstraction of twenty ounces of blood seemed at once to break the force of the attack. In a great proportion of cases venesection is not required, and we are to trust for the relief of the inflammation to the repeated application of leeches above and below Poupart's ligament in the course of the crural veins. From two to three dozen of leeches should be applied immediately after the commencement of the disease, and the bleeding should be encouraged by warm fomentations, or by a bread-and-water poultice to the part. Should the relief of the local pain not be complete, it is requisite soon

* Laennec, Forbes's Translation, 2d. Edit. p. 652.

to reapply the leeches in numbers proportioned to the severity of the attack, and to repeat them a third or even fourth time at no very distant intervals, should the disease not yield.

Some patients experience greatest relief from the use of warm cataplasms to the limb, others derive most advantage from the application of cold, or a tepid evaporating lotion.

The bowels are often much disordered in this disease, but the employment of strong acrid cathartics is always injurious. Repeated small doses of calomel and antimonial powder should be given with some mild purgative, not only with the view of correcting the disordered state of the bowels, but to subdue the local inflammation and the great constitutional disturbance usually present. It is of importance also to administer saline and diaphoretic medicines, and to procure rest and relief from pain by anodynes, until the acute symptoms pass away; the diet should be the same as that usually allowed to patients who are labouring under inflammatory and febrile diseases. I have seen no advantage derived from the use of digitalis in any stage, either of uterine or crural phlebitis.

When the acute inflammatory symptoms have passed away, the limb remains in a weak and œdematous state, and great uneasiness is often experienced from congestion of the blood in the veins. Until the collateral branches which are to carry back the blood to the heart become enlarged, it is impossible by any means we possess to afford complete relief. Much benefit may, however, be derived in this stage of the complaint from the occasional application of a few leeches to different parts of the limb, and by preserving it in the horizontal position. I have seen mischief produced by having recourse too early to remedies intended to promote the absorption of the fluid effused into the cellular membrane. Blisters, frictions, stimulant embroca-

tions, and bandages to the limb, are only useful when the inflammation of the veins has wholly subsided, and other vessels have become so much enlarged as to carry on the circulation of the blood in the extremity without interruption.

I have not perceived any sensible benefit accrue from the use of mercurial ointment and iodine in crural phlebitis, and I consider the local abstraction of blood at the commencement of the attack to constitute by far the most important part of the treatment.

A TABULAR VIEW OF ONE HUNDRED CASES OF UTERINE INFLAMMATION IN PUERPERAL WOMEN, WHICH OCCURRED FROM MARCH 1827 TO MAY 1831.

No.	NAME, RESIDENCE, DATE OF DELIVERY.	DATE OF ATTACK AND PROGRESS OF SYMPTOMS.	TREATMENT.	RESULT.
1	Groom, 13 Little Coram Street, Natural Labour, 6th March, 1827.	First day after delivery; pyrexia, uterine pain, lochia suppressed, diarrhœa, vomiting, tympanites.	Opiates and hot fomentations at the commencement. Venesection to ℥xii late in the disease, cathartics.	died.
2	E. Marshall, 3 Crown Street Soho, nat. lab. 1st March.	2 d. Uterine pain, rigors, milk and lochia suppressed, vomiting, diarrhœa, tympanites, delirium.	V. S. ℥xiv third day after attack, hirud. xxx hypogast.; calomel, antim., cathar., opiates.	died.
3	Mary Pascour, nat. lab. 15th March.	2 d. Violent rigor, and uterine pain, tongue red and moist, lochia suppressed.	V. S. ℥xvi, hirud. xxx; calomel, antimony, cathartics.	cured.
4	Mary Sullivan, 16 Denmark Street, ted. lab. 25th March.	3 d. Uterine pain, rigors, p. 96 sharp, lochia suppressed.	V. S. ℥xv, hirud. xi; calomel, antim., cathar.	cured.
5	Wilson, 4 Pitt. Place, ted. lab. 2d April.	8 d. Rigors, uterine pain, headache, lochia suppressed.	V. S. ℥xiv; calomel and cathartics.	cured.
6	Sarah Oulton, 8 Haughton Street, cross birth, 9th April.	3 d. Uterine pain, p. 110, lochia suppressed, abdominal tenderness, vomiting, tympanites.	Stimulants and opiates at the commencement, copious venesection, and digitalis late.	died.
7	Leeder, 24 Brownlow Street, nat. lab. 13th April.	5 d. Severe rigor, headache, pain of back, loins, and left illiac fossa.	V. S. lb.ij, hirud. xx; calomel and cathartics.	cured.
8	Haman, 2 St. Ann Place, nat. lab. 20th April.	3 d. Intense headache, uterine pain, p. frequent, t. white, breasts flaccid.	V. S. lb.i.ss; calomel and antimony, cathartics.	cured.
9	Richards, 20 Stacey Street, cross birth, 2d May.	1 d. Rigors, intense uterine pain and headache, lochia suppressed.	V. S. ℥xxiv, hirud. calomel, opium, cathartics.	cured.
10	Hunn, Crown Street Soho, nat. labour, 1st May.	6 d. Severe uterine and abdominal pain, lochia suppressed, p. 120.	V. S. ℥xx, hirud. xxx; cathartics and opiates.	cured.
11	Carr, Tash Court, Gray's Inn Lane, n. l. 12th May.	3 d. Rigors, uterus large and painful, p. frequent and soft. t. white and moist, countenance pale and anxious.	V. S. lb.ij; calomel, cathartics.	cured.
12	Maunay, 6 Charles Street Drury Lane, n. l. 27th May.	2 d. Uterine pain, nausea and headache, lochia diminished, p. 80.	V. S. ℥xii; fomentations and cathartics.	cured.
13	Eliza Corey, 50 King Street Soho, n. l. 17th June.	3 d. Pyrexia, exquisite uterine pain with great depression and headache, lochia suppressed, p. 140.	V. S. ℥xxiv, hirud. xviii; calomel and cathar.	cured.
14	Groundswell, Ham Yard, nat. labour, 10th July.	3 d. Rigors, uterine pain and headache, loch. suppressed.	V. S. ℥xviii, hirud. xii; calomel, antimony, cathartics.	cured.
15	Shepherd, 39 St. Martin's Street, convulsions, 13th August	5 d. Violent pain of uterus, rapid pulse, t. loaded, severe pain and swelling of the left leg.	V. S. twice ℥xxiv, hirud. xxiv.	cured.
16	Costello, 13th September.	4 d. Slight uterine pain, rigors, rapid feeble p., brown t., delirium, tympanites, vomiting.	Hirud. x; stimulants, opiates.	died.
17	Somerville, Orange Street, nat. labour, 21st September.	Dull uterine pain, headache, delirium, rapid feeble pulse, great debility.	V. S. ℥viii; warm fomentations, opiates.	died.

18	Cantwell, Green Street, nat. labour, 23d September.	2 d. Violent rigor, and uterine pain, p. 140, headache, sickness, tremors, delirium, great debility, painful and distended abdomen.	V. S. ℥xii ; calomel, Dover's powder, cathartics, blisters.	died.
19	Foster, 11 Ogle Street, nat. labour, 6th October.	6 d. Uterine pain gradually increasing from delivery, p. 140, debility, hurried respiration.	V. S. ℥xvi, hirud. xxiv ; calomel and antimony.	cured.
20	Cooper, 6 Moore Street, nat. labour, 3d October.	10 d. Rigors, pain of uterus and right iliac region, p. 100. lochia suppressed.	V. S. ℥xvi, hirud. xxiv ; calomel and antimony.	cured.
21	Wellington, 16 Tower St. Seven Dials, 16th October.	3 d. Severe uterine pain, vomiting, p. 100, loch. supd.	V. S. ℥xvi, hirud. xviii ; calomel and antimony.	cured.
22	Hill, 464 Strand, nat. lab. 15th October.	4 d. Severe pain in iliac regions, t. white, p. 96.	V. S. ℥xiv. calomel, antimony, cathartics.	cured.
23	Hughes, 22 Short's Gardens nat. labour, 29th October.	2 d. Uterine pain from the period of delivery, rigor, loch. suppressed, p. 140.	V. S. ℥xii ; calomel, pulv. Jacob. cathartics.	
24	Pope, Feathers Court Drury Lane, n. l. 26th October.	5 d. Rigors, headache, intense uterine pain, loch. supd. p. 135 feeble, t. dry and brown, vomiting.	Huridin. xxiv ; powerful diffusible stimuli, quinine, &c.	died.
25	Desmond, 15 Crown Street, nat. labour, 16th November.	4 d. Rigors, headache, acute uterine pain, loch. supd.	V. S. ℥xx, hirud. xvi ; calomel, antimony and cathartics. Cataplasms.	cured.
26	Manning, 131 Drury Lane, cross birth, 3d December. 1828.	3 d. Exquisite uterine pain, rigor, thirst, cough, rapid strong pulse.	V. S. at twice ℥liv, hirud. xxiv ; fomentations, calomel, antimony, opium, cathartics.	cured.
27	Mayes, 5 Vere Street, natural labour, 10th January.	3 d. Rigors, headache, acute pain of hypogastrium, p. 110. t. white, lochia and milk not suppressed.	V. S. ℥xvi, hirud. xxiv ; fomentations, calom. pulv. Jacob. a a gr. v, 4ta qq. h. cathartics. saline draughts.	cured.
28	Adams, 10 Ely Court, Holborn, nat. lab. 16th January, 1828.	3 d. Severe after pains ; uterine region exquisitely painful on pressure, p. 90 and strong, t. white, thirst, lochia flow.	V. S. ℥xxx. hirud. xviii. ; cataplasms, calomel, antim., cathartics, pulv. Dover.	cured.
29	Atkinson, 5 Shelton Court, nat. lab. 25th January.	2 d. Excessive tenderness of uterus, hypogastrium tumid, p. 100 weak, no rigor or headache, lochia and milk flow, retention of urine.	V. S. ℥xviii. V. S. ℥x. ; hirud. xxiv. ; hirud. xxiv. ; calomel to salivation, cathartics, cataplasms, blisters.	cured.
30	Malton, 5 New Compton Street, nat. lab. 1st February.	3 d. Rigors, uterus large, and on the right side exquisitely painful, intense pain in the forehead, t. white, nausea, prostration, lochia flow.	V. S. ℥xvi. ; hirud. calomel, antim., cathartics, opiates.	cured.
31	Laurens, 6, Cumberland Street, Middlesex Hospital, Dropsy of Amnion, Hydrocephalic child, 12th Feb.	2 d. Intense pain of hypogastrium, rapid feeble pulse, vomiting, foul tongue, prostration of strength, tympanites, lochia suppressed.	Hirud. xxiv. ; calomel, Dover's powders, cataplasms, effervescing draughts.	died.
32	Parkhurst, Marylebone Lane, Hæmorrhage and retained placenta, 6th March.	3 d. Acute pain of uterus, loch. suppressed, rigors, rapid pulse, loaded tongue, nausea, yellow suffusion of countenance, crural phlebitis on left side.	Copious venesection, hirud. fomentations, opiates, cathartics, &c.	cured after 5 weeks.
33	Case, 5 Monmouth Street, nat. lab. 20th March.	2 d. Acute pain of hypogastrium, rigors, p. accelerated, lochia suppressed.	V. S. ℥xviii, Calomel, cathartics, fomentation.	cured.
34	A patient in the British Lying-in Hospital, nat. lab. 12th March.	15 d. Violent pain of lower part of abdomen, vomiting, rapid feeble pulse, extremities cold.	Opiates, fomentations, hirud. xii ; vesication, calomel and opium late.	died.
35	——, 61 High Street S. Giles's, nat. lab. 16th April.	4 d. Rigor, quick strong pulse, hot skin, great sensibility of the hypogastrium, lochia suppressed.	Copious V. S. calomel, antimony, cathartics.	cured.

No.	NAME, RESIDENCE, DATE OF DELIVERY.	DATE OF ATTACK AND PROGRESS OF SYMPTOMS.	TREATMENT.	RESULT.
36	M. Jenkins, 11 Charles Street Strand, nat. lab. 15th April.	3 d. Exquisite tenderness, but no fullness or hardness in the region of the uterus, headache, rigors, loch. suppressed, pulse quick, not feeble.	V. S. ℥xx; calomel, pulv. antimonii, haust. sennæ, cataplasms.	cured.
37	Buck, White Horse Yard Drury Lane, nat. lab. 8th July.	2 d. Severe rigor, uterus large, hard, and painful, loch. flow, p. 130, tongue loaded, bowels costive.	V. S. ℥xxv; calomel, cathartics, cataplasms.	cured.
38	Austin, British Lying-in Hospital, nat. lab.	7 d. Severe fever, headache, delirium, p. 130, tremor of tongue and extremities, diarrhœa, swellings of joints.	Hirud. xii capiti, diaphoretics, opiates, stimulants, &c.	died.
39	A patient, British Lying-in Hospital, nat. lab.	3 d. Acute pain in the iliac regions, rapid pulse, rigors, lochia suppressed.	V. S. ℥xx; calomel, cathartics, fomentations.	cured.
40	Ann Cromer, St. James's Infirmary. Uterine hæmorrhage, 22d July.	2 d. Headache, p. 140, hurried respiration, no pain of abdomen, pain in the chest, followed in a few days by cough, and fœtid expectoration.	V. S. 8th day to ℥xvi; blisters to the thorax, &c.	died 18th day.
41	A woman in the British Lying-in Hospital, nat. lab. 8th August.	6 d. Rigors, intense soreness of the hypogastrium, tongue loaded, bowels open, pulse quick, skin hot.	V. S. ℥xx; calomel, pulv. antim. cathartics.	cured.
42	——, 26, Little Windmill Street, nat. lab. 3d November.	10 d. Violent pyrexia, uterus large, hard, and painful, gradually increasing from delivery, lochia suppressed.	V. S. ℥xx, hirud. xxxvi; calomel, pulv. antim., gr. v. 3tia. qq. hora, haust. salin	cured.
43	Mrs. Turner, 92, Berwick Street, premature labour, 10th December.	2 d Acute pain in the hypogastrium before delivery; severe vomiting soon after took place, with pyrexia, tension of abdomen, suppression of urine, and tympanites.	V. S. ℥xxiv, hirud. cataplasms.	died.
44	Vernon, 11 Chapel Street. Dropsy of the amnion, hemorrhage. 1st Nov.	2 d. Violent rigor, sudden attack of acute pain of the uterus, which became large and hard, loch. suppd.	V. S. ℥xx, hirud. xxxvi immediately after; calomel, pulv. antim. a.a. gr. v. 3tia qq. hora. haust. efferves.	cured.
	1829.			
45	Gibbs, 41 Broad Street Golden Square, nat. lab. 15th January.	3 d. Acute pain of uterus, pyrexia, p. rapid and feeble, suppressed lochia, followed by great tenderness in the left iliac and femoral veins, and general swelling of the whole left lower extremity of short duration.	Moderate venesection twice at the onset, hirud. xxxvi, fomentations, mild cathar., opiates.	cured.
46	A patient of Middlesex Hospital, 20, Ogle Street, nat. lab. February.	4 d. Pyrexia, acute pain increased by pressure in the left iliac region, lochia diminished, t. white, headache, surface hot and moist.	Hirud. xviii, twice, cataplasm, opiates.	cured.
47	Greenwood, 4 Stafford Street, protracted lab. 21st February	3 d. Acute pain in the uterus and forehead, rigors, great sensibility of the left iliac region, p. 116, loch. diminished, t. loaded, urgent thirst.	V. S. lbij. syncope, calomel and opium, hirud. xxiv, cathartics.	cured.
48	} Cases in the Practice of Westminster	Notes of these cases mislaid.	Copious venesection employed.	cured.
49	} Dispensary.			
50	Davies, Orange Street Leicester Square. Deformed pelvis, embryotomy, 27th March.	2 d. Great pain, swelling and tension of hypogastrium, rapid feeble pulse, brown tongue, vomiting, delirium.	Hirud. xxiv; calomel, pulv. ipecac., co. catapl.	died 7th day.

51	Case, British Lying-in Hospital, nat. lab. 1st March.	5 d. Pain in left side of hypogastrium, followed by rigors and headache, p. 120, skin hot, t. red and glossy, exquisite tenderness of the whole uterine region.	V. S. ℥xx, hirud. xxiv; calomel gr. iii, pulv. Dover, gr. v, 3tia qq. h. The relief from V. S. instantaneous.	cured.
52	Case in Queen Charlotte's Lying-in Hospital, nat. lab. March	4 d. Slight abdominal pain, diarrhœa, brown t., vomiting, rapid feeble pulse, great prostration of strength.	Hirud. vesication, &c.	died 14th day.
53	Mayhew, British Lying-in Hospital, nat. lab. 2d March.	4 d. Pyrexia, p. 130, great debility, delirium, dusky yellow complexion, no pain of abdomen, cough, excruciating pains in the joints of the extremities.	Powerful diffusible stimulants, opiates.	died 22nd day.
54	Aldridge, British Lying-in Hospital, nat. lab. 25th May.	3 or 4 d. Severe uterine pain, pyrexia, suppressed lochia, became maniacal.	V. S. ℥viii, cathartics, fomentations.	cured.
55	Airey, 43 Clipstone Street, nat. labour, 23d May.	2 d. Severe uterine pain, no general abdominal tenderness, p. 100, t. white, lochia suppressed.	V. S. ℥xvi, calomel, pulv. antim. cathartics.	cured.
56	Case observed with Mr. Lane, Bloomsbury Market, nat. lab. 15th June.	5 d. Vomiting within 24 hours after delivery, rapid feeble pulse, no pain of abdomen, or swelling, headache.	Head shaved, cold lotions, cathartics (uterine appendages inflamed).	died 5th day.
57	Tiffin, 18 Mercer Street Long Acre, nat. lab. 7th July.	2 d. Uterus large, hard, and exquisitely painful, lochia scanty, p. 100; pain gradually diffused, sickness, vomiting, delirium, rapid pulse and breathing.	V. S. ℥xv., hirud. xii. V. S. ℥xxiv, hirud. xviii, calomel, opium, cathartics, blisters.	died 4th day.
58	M'Sweeney, Falconberg Court, nat. lab. 6th July.	4 d. Slight uterine pain, delirium, rapid feeble pulse, great debility, vomiting, yellow skin, offensive lochia.	No remedies were employed, the case was hopeless when first seen.	died.
59	Stockin, 4 Tottenham Court Road, nat. lab. 8th July.	3 d. Pain increased by pressure, loch. scanty, p. rapid and soft, saphena veins of right side hard and painful.	V. S. ℥xii, hirud. xii; Calomel, pulv. antimon.	cured.
60	Millam, 4 Tudor Place, nat. lab. 12th July.	2 d. Rigors and headache, followed by excruciating pain of uterus, pressure cannot be endured, lochia suppressed, p. 160, t. white and moist.	V. S. ℥xxiv, calomel, pulv. antim. hirud. xviii, fohu., calomel & opium, with marked relief.	cured.
61	Keene, 6 Draper's Place. Protracted l. hydrocephalic child, 14th July.	2 or 3 d. Rigors slight ut. pain, p. 133, sallow skin. respiration hurried, cough, great debility.	V. S. not employed, anodynes, diaphoretics, blister to the chest.	died.
62	Luff, British Lying-in Hospital, nat. lab. 11th August.	Sudden acute pain of the uterus, right side exquisitely tender on pressure, uterus large and hard, p. 112, small; rigors, lochia scanty.	V. S. ℥xxvi, hirud. xxxv. calomel gr. vi, pulv. antim. gr. v, 3tia qq. h., Dover's powders; the relief from bleeding most striking in this case.	cured.
63	Mary A. Hale, British Lying-in Hospital, nat. lab. 25th July.	2 d. Severe rigor, followed by great tenderness of hypogastrium, rapid pulse, white tongue.	V. S. ℥xviii, syncope, hirud. calomel, pul. Dov.	died 5th day.
64	M'Creevey, British Lying-in Hospital, nat. lab. 29th August.	2 d. Vomiting during labour, recurred a few hours after delivery, with pyrexia and severe abdominal pain, tympanites, rapid pulse.	V. S. ℥xiv, hirud. xxiv; calomel, opium, &c. (Strangulation of intes. from omentum).	died 3rd day.
65	——, Chelsea, nat. lab. 29th August.	4 d. Diarrhœa, rapid feeble pulse, yellow tinge of the skin, prostration of strength, foul tongue.	Stimulants.	died.
66	Clarke, 57 Monmouth Street, nat. lab. 6th September.	7 d. Pyrexia, headache, vomiting, no uterine pain, p. 150, swellings around the joints, delirium, rigors, brown t. great debility.	Stimulants.	died.
67	Mason, 3 Little Vine Street Piccadilly. Twins, flooding. August.	A few days after delivery, pyrexia, with great uterine pain, rapid p., loaded t., diarrhœa, delirium, crural phlebitis in both lower extremities.	Hirud. diffusible stimulants.	died.

No.	NAME, RESIDENCE, DATE OF DELIVERY.	DATE OF ATTACK AND PROGRESS OF SYMPTOMS.	TREATMENT.	RESULT.
68	——, 7, Denmark Street. Protracted labour, embryotomy, 14th Sept.	2 d. Pyrexia, acute abdominal pain, swelling of labia, quick pulse, tympanites, gangrene of external parts.	V. S. ʒxvi, hirud. xxiv ; calomel and opium, &c.	died.
69	Ryan, 4 Richmond Street. Deformed pelvis, embyotomy, 5th December.	2 d. exquisite pain of uterus, loch. suppressed, p. 100 and strong, great heat of skin.	V. S. copious and repeated, hirud. xxxvi, calomel, cathartics.	cured.
70	Cox, Marylebone Street St. James's. Protracted labour, 1st December.	5 d. Pyrexia, acute uterine pain, vomiting, rigors, lochia suppressed, stupor, delirium, foul t., abdomen puffy, p. 140 feeble.	V. S. ʒviii, hirud. xxiv ; calomel, opium, &c.	died.
71	Hickson, British Lying-in Hospital. nat. lab. 14th November.	18 d. Late in the disease, exquisite uterine pain, p. 130, breathing hurried, features sunk, vomiting, brown t. yellow tinge of the skin.	Hirud., stimulants.	died.
72	Gilland, British Lying-in Hospital, nat. lab. 24th December.	5 d. Pyrexia, uterine pain, p. 150, headache, vomiting, tympanites.	Hirud. x temporibus, cinchona, wine, brandy, opium.	died.
73	Long, British Lying-in Hospital, nat. lab. 18th December.	4 d. Headache, p. 130, delirium, great tympanites, t. dry and brown.	V. S. at twice, ʒxx, cathartics.	died.
74	Mrs. Allan, 11 Noel Street. Convulsions, December.	4 d. Great ut. tenderness, loch. suppressed, p. rapid, delirium, vomiting, sallow skin, crural phlebitis.	V.S. ʒxiv, hirud., calomel, antim., fomentations.	cured.
	1830.			
75	Phœbe Robins, 224 Holborn, ted. lab. 10th January.	3 d. Great pain, pyrexia, p. strong and quick, loch. supd.	V. S. ʒxvi, calomel, opium, hirud. xxiv.	cured.
76	Marchant, Hosp. nat. lab. 11th Jan.	3 d. Pain of uterus, p. 100, rigors, headache.	Hirud. xii, calomel, cathartics.	cured.
77	Leaney, Hosp. nat. lab. 11th	3 d. Headache, pyrexia, uterine pain, p. 120, lochia suppressed, vomiting.	V. S. ʒxiv, hirud. lx ; calomel and opium, cathartics.	cured.
78	Messlin, Hosp. nat. lab. 13th	2 d. Cough, uteriue pain, rigors, headache, lochia suppressed, p. 100, pulmonary affection.	V. S. ʒxvi. V. S. ʒxiv ; calomel, opium, &c.	died.
79	Meaden, Hosp. nat. lab. 15th	2 d. Headache, rigors, uterus painful, large and hard, anxiety, breathing hurried, pulse 110, loch.	V. S. ʒxx, hirud. xxiv ; opium, fomentations.	cured.
80	Case in Hosp. nat. lab. 28th	3 d. pyrexia, great uterine pain, rigors.	V. S. ʒxx, calomel and opium, fomentations.	cured.
81	Case seen with Mr. North, nat. lab. Jan.	6 d. Low fever, brown tongue, abdom. pain, swellings of the extremities, sallow skin.	Sulphate of quinine, and stimulants.	died.
82	Williams, Middlesex Hospital, nat. lab. 13th January.	8 d. Vomiting, rigors, severe uterine pain, foul t. offensive loch. p. 120 soft.	V. S. ʒxvi, hirud. xii ; calomel, antimony, and opium.	cured.
83	Honeyman, Angel Street City, nat. lab. 12th February.	4 d. Acute uterine pain, violent rigor, headache, lochia suppressed, p. 115 strong, respiration hurried.	V. S. ʒxxx, hirud. xxiv ; calomel, antimony, and cathartics.	cured.
84	Jones, 48 Marshall Street, nat. lab. 11th Feb.	3 d. Pyrexia, acute uterine pain, loch. suppressed, rigors, pain and swelling of left iliac region, cough, suppuration at the brim of the pelvis.	Hirud. often repeated, cataplasms, bark, stimulants.	cured 5h month
85	Hadden, 3 Castle Street, cross birth, May 22d.	4 d. Uterine pain, loch. suppressed, rigors, pain in right groin, p. 100, t. white.	V. S. ʒxii, hirud. xvi ; calomel and antimony, cataplasms.	cured.
86	Sears, 23 Church Lane, n. l. 20th June.	4 d. Great uterine pain, p. 100 full, loch. suppd. rigors.	V. S. ʒxvi, hirud. xxiv ; cal. et antim. foment.	cured.

37	Allen, Phœnix Street, ted. lab. 10th June.	4 d. Uterine pain, p. frequent and full, loch. suppressed, t. brown, vomiting, pain in right groin, p. 130, resp. hurried.	V. S. ℥xxvi, hirud. xxxvi; calomel, antimony, opium, cathartics.	cured.
38	Sankey, 35 Wardour Street, protracted labour, June	Sudden pyrexia and pain in left groin and thigh, rigors, t. loaded, vomiting, suppuration in groin.	Hirud. xxiv, repeatedly, cataplasms, calomel, opiates, &c.	cured.
39	Phillips, 2 Sussex Street, 30th July.	5 d. Uter. pain, violent headache, delirium, rigors, p. 130.	V. S. ℥x, hirud. xii; calom. ant. opium, cathar.	cured.
90	Chapman, 9 Belton Street Long Acre, nat. lab. 19th August.	5 d. Sudden uterine pain, headache, delirium, p. 120 weak, t. dry and brown, constant diarrhœa and vomiting.	Hirud. xii. repeated, calomel and opium, fomentations.	died.
91	Keene, 2 Little Earl Street, ted. labour, 2d September.	3 d. Uterus large, hard, and painful, headache, slight rigor, p. 132.	V. S. ℥xvi, hirud. xii; calomel, antim., opium, cathartics.	cured.
92	A patient of Benevolent Institution, Long Acre, 5th October.	3 d. Great uterine pain and dyspnœa, tympanites.	Copious V. S., hirud., foment. &c.; dying when first seen.	died.
93	Wall, 89 Berwick Street. Deformed pelvis, 1st November.	3 d. Acute uterine pain, loch. suppressed, p. 100 soft, pain in left groin; p. rapid, countenance dejected, debility.	V. S. lb.s. hirud. xx; calomel, opium, cathar. cataplasms.	died.
94	Sexton, British Lying-in Hospital. Hemorrhage, 19th Dec.	3 d. Great uterine pain, loch. suppressed, headache, rigor, countenance dusky, p. feeble and quick.	V. S. ℥xix, hirud. xxxvi; cataplasms, calomel, antimony and opium, cathartics.	died.
95	Jones, British Lying-in Hosp. nat. lab. 20th December.	2 d. Intense pain of uterus and both groins, loch. supd. rigors, headache, vomiting, features collapsed and ghastly.	V. S. ℥xii, hirud. xxvi; cataplasms, calomel, antimony and opium.	died.
96	Cecilia Boyd, 32 Peter Street, nat. lab. 28th December.	4 d. Great pain of uterus and groin, rapid pulse, rigors, delirium, tympanites.	V. S. ℥viii, hirud. xxxvi; calomel, antimony, mercurial frictions, cathartics, potass carb.	died.
97	Holding, patient of Middlesex Hospital, nat. lab. 18th January 1831.	3 d. Severe uterine pain, rigors, and headache, loch. suppressed, p. 130, features pallid, enlarged painful veins at the top of left thigh, great debility, vomiting.	V. S. ℥xvi, hirud. xlviii thrice, calomel, cathar. &c. stimulants.	died.
98	A patient in the New Road, nat. lab. 7th Feb.	3 d. Violent pain and enlargement of uterus, p. 140 feeble, vomiting incessant, delirium, tympanites.	V. S. ℥xvi, hirud. liv; blisters, mercurial friction, calomel, antimony and opiates.	died.
99	A patient of Middlesex Hospital, Compton Place, nat. lab. 22d Feb.	5 d. Slight uterine pain, headache, pain and swelling of groin, lochia suppressed, delirium, tremors, pale and sunken countenance.	V. S. ℥xvi, hirud., cataplasms, stimulants; dying when first seen.	died.
100	Mrs. Crampton, 75 Gray's Inn Lane, nat. lab. 16th May.*	5 d. Acute uterine pain, severe pyrexia, &c. On the 12th day hectic fever, a large abscess pointing at the groin, from which a quantity of pus was discharged.	Hirud. xxiv, three or four times, cataplasms, cathartics, opiates.	cured.

* I might add eighty more Cases, of which Reports have been preserved, but the preceding appear to me to present every variety of this affection, and are sufficient to illustrate its pathology and treatment. It is necessary to add that many of the patients who died were in a hopeless condition when I first saw them, and that the treatment of these and some other cases which ended favourably was not directed by me, nor was such as I have recommended.

PART II.

ON UTERINE HEMORRHAGE.

ON UTERINE HEMORRHAGE.

CHAPTER I.

ON THE CONNEXION OF THE PLACENTA AND FŒTAL MEMBRANES WITH THE UTERUS, AND ON THE PROCESS EMPLOYED BY NATURE FOR SUPPRESSING UTERINE HEMORRHAGE.

In the year 1780, Mr. John Hunter presented a paper to the Royal Society, in which he laid claim to the discovery of the true structure of the placenta, and its communication with the vessels of the uterus. The following is the history of the appearances which he observed in the dissection of a woman who had died undelivered near the full term of utero-gestation, and from which appearances his conclusions were drawn respecting the natural structure of these parts. The veins and arteries of the uterus having been injected, an incision was made through the parietes, at the anterior part where the placenta adhered to the internal surface. Between the uterus and placenta lay an irregular mass of injected matter, and from this mass regular pieces of the wax passed obliquely between it and the uterus, which broke off, leaving part attached to that mass; and on attentively examining the

portions towards the uterus, they plainly appeared to be a continuation of the veins passing from it to this substance, which proved to be the placenta. Other vessels, about the size of a crow-quill, were seen passing in the same manner, although not so obliquely. These also broke on separating the placenta and uterus, leaving a small portion on the surface of the placenta; and on examination they were discovered to be continuations of the arteries of the uterus. The veins were next traced into the substance of what appeared placenta; but these soon lost the regularity of vessels, by terminating at once upon the surface of the placenta, in a very fine spongy substance, the interstices of which were filled with yellow injected matter. He then examined the arteries; and tracing them in the same manner towards the placenta, found that, having made a twisted or close spinal turn upon themselves, they were lost on its surface.

On cutting into the placenta, he discovered in many places of its substance yellow injection, and in others red, and in many others these two colours mixed. The substance of the placenta, now filled with injection, had nothing of the vascular appearance nor that of extravasation, but had a regularity in its form which shewed it to be naturally of a cellular structure, fitted to be a reservoir for blood.

From these appearances Mr. Hunter infers, "that the arteries which are not immediately employed in conveying nourishment to the uterus go on towards the placenta, and proceeding obliquely between it and the uterus, pass through the decidua without ramifying. Just before entering the placenta, after making two or three close spiral turns upon themselves, they open at once into its spongy substance, without any diminution of size, and without passing behind the surface, as above described.

"The veins of the uterus appropriated to bring back the

blood from the placenta, commence from this spongy substance by such wide beginnings as are more than equal to the size of the veins themselves. These veins pass obliquely through the decidua to the uterus, enter its substance obliquely, and immediately communicate with the proper veins of the uterus. This structure of parts points at once to the nature of the blood's motion in the placenta. The blood detached from the common circulation of the mother, moves through the placenta of the fœtus, and is then returned back into the course of the circulation of the mother, to pass on to the heart."*

Dr. William Hunter's description of the vascular connexion between the uterus and placenta, coincides with that of his brother; "for it seems incontestible (he observes) that the human placenta, like that of the quadruped, is composed of two distinct parts, though blended together; viz. an umbilical, which may be considered as a part of the fœtus, and an uterine, which belongs to the mother; that each of these parts has its peculiar system of arteries and veins, and its peculiar circulation, receiving blood by its arteries and returning it by its veins; that the circulation through these two parts of the placenta differs in the following manner: — in the umbilical portion the arteries terminate in the veins by a continuity of canal, whereas in the uterine portion there are intermediate cells, into which the arteries terminate, and from which the veins begin."†

It is a singular fact, that these celebrated anatomists should both have asserted their claims to the merit of what they supposed to be the discovery of the true structure of the human placenta, and its connexion with the uterus, and that their controversy on this subject should have

* Observations on certain Parts of the Animal Œconomy, by John Hunter, 1786, page 127.

† Anatomical Description of the Gravid Uterus and its Contents, by the late W. Hunter, M.D. London, 1794, page 48.

loosened those bonds of affection which had united them together from their earlier years.*

Noortwych, Rœderer, and Haller, had previously investigated this subject, by injecting the blood-vessels of the gravid uterus: their researches, however, did not determine, in a satisfactory manner, that a vascular connexion exists between the uterus and cells in the placenta. The opinions of the Hunters were generally acquiesced in at the time they were promulgated, and their accuracy has not been called in question by any anatomist of reputation in this country for the last forty years.

In a communication which I had the honour of presenting to the Royal Society, and which has been published in the Philosophical Transactions, I described certain appearances which I had observed in the examination of six gravid uteri, and many placentæ expelled in natural labour, which seemed to demonstrate that a cellular structure does not exist in the placenta, and that there is no connexion between this organ and the uterus by great arteries and veins.†

If an incision be made through the parietes of the gravid uterus, where the placenta does not adhere, the membrana decidua will be observed lining the internal surface, and numerous minute blood-vessels and fibres passing from the inner membrane of the uterus to the decidua. At the circumference of the placenta, the membrana decidua separates from the chorion and amnion to pass between the uterus and placenta, and thus forms a complete membranous septum, which is interposed betwixt these organs. The chorion and amnion cover the fœtal surface of the placenta; and between these two membranes and the decidua lie the ramifications of the umbilical vein, and arteries subdivided to an almost indefinite extent, and connected

* Their letters are preserved in the Archives of the Royal Society.

† Philosophical Transactions, part i. 1832.

together by white slender filaments running in various directions. The placenta thus consists solely of a congeries of the umbilical vessels, covered on the fœtal surface by the chorion and amnion, and on the uterine surface by the deciduous membrane, and enclosed between these membranes; it adheres to the fundus, or some part of the uterus, by innumerable flocculent fibres and vessels.

On detaching the placenta carefully from the uterus, the deciduous membrane is found to adhere so closely to the umbilical vessels which it covers, that it is impossible to remove it without tearing these vessels. With the fibres uniting the placental decidua to the uterus, are mingled numerous small blood-vessels, proceeding from the inner membrane of the uterus to the decidua; and these vessels, though more numerous at the connexion of the placenta with the uterus, exist universally throughout the whole extent of the membrane. There is no vestige of the passage of any great blood-vessel, either artery or vein, through the intervening decidua, from the uterus to the placenta; nor has the appearance of the orifice of a vessel been discovered, even with the help of a magnifier, on the uterine surface of the placenta. This surface of the placenta, deprived of the deciduous membrane, presents a mass of floating vessels, its texture being extremely soft and easily torn; and no cells are discernible in its structure, by the minutest examination.

At that part of the surface of the uterus to which the placenta has been adherent, there are observable a great number of openings leading obliquely through the inner membrane of the uterus, and large enough to admit the point of the little finger: their edges are perfectly smooth, and present not the slightest appearance of having been lacerated by the removal of the placenta. In some places they have a semilunar or elliptical form, and in others they

resemble a double valvular aperture. Over these openings in the inner membrane of the uterus, the placenta, covered by deciduous membrane, is directly applied, and closes them in such a manner that the maternal blood, as it flows in the uterine sinuses, cannot possibly escape either into the cavity of the uterus or into the substance of the placenta. The above appearances on the inner surface of the uterus have been accurately represented in Fig. 1. Plate I.

When air is forcibly thrown either into the spermatic arteries or veins, the whole inner membrane of the uterus is raised by it; but none of the air passes across the deciduous membrane into the placenta, nor does it escape from the semilunar openings in the inner membrane of the uterus, until the attachment of the deciduous membrane to the uterus is destroyed. There are no openings in the deciduous membrane corresponding with these valvular apertures now described, in the internal membrane of the uterus. (Fig. 2. Plate I.)

If a placenta be examined which has recently been separated from the uterus in natural labour, without any artificial force having been employed, its surface will be found uniformly smooth, and covered with the deciduous membrane; which could not be the case did any large vessels connect it with the uterus. The placenta, in a great majority of cases, is also detached from the uterus after labour, with the least imaginable force; which would be impossible, if a union by large blood-vessels, possessing the ordinary strength of arteries and veins, actually existed. Besides, a vascular connexion of such a kind would be likely to give rise, in every case, to dangerous hemorrhage subsequent to parturition, a circumstance not in accordance with daily experience.

Noortwych, Rœderer, Haller, Dr. W. and Mr. J. Hunter, and Dr. Donald Monro, do not appear to have examined

the gravid uterus and its contents in the natural state of the parts, but after fluids had been forcibly injected into the hypogastric and spermatic arteries. The laceration of the deciduous membrane covering the orifices of the uterine sinuses followed this artificial process, as well as the formation of deposits of injection in the vascular structure of the placenta, giving rise to the deceptive appearance of cells. That this took place in the examinations made by Rœderer* and Monro,† does not admit of dispute; and the following facts render it more than probable that the Hunters were also misled, by the effects of artificial distention of the placenta, from the extravasation of the fluids forced into the uterine vessels.

In the Museum of the Royal College of Surgeons in London, there is a preparation of the uterus with the placenta adhering to the inner surface, which is supposed to have been put up by Mr. Hunter himself nearly fifty years ago. The vessels both of the uterus and placenta have been filled with injection, and the parieties of the uterus, placenta, and membranes, have all been divided by a vertical section into two nearly equal portions. By permission of the Board of Curators, I have been enabled to examine one of these portions, and to have a drawing of it made. In the interstices of the muscular fibres, I observed the veins of the uterus, which ran in great numbers towards the part where the placenta adhered. They were of an oval form, their long axes being in the long axis of the uterus. The muscular fibres ran longitudinally from the fundus to the os uteri.

The deciduous membrane was every where covered with minute, tortuous, blood-vessels, proceeding from the inner surface of the uterus, and filled with injection. There

* Icones Uteri humani, Observationibus illustratæ. J. G. Rœderer, 1759.

† Essays and Observations, Physical and Literary, read before a Society in Edinburgh, vol. i. 1754.

was no appearance of vessels of any magnitude passing between the inner surface of the uterus and placenta; but flattened portions of injection were observed in this situation, having in many parts the form of thin layers, which had obviously escaped from the orifices of the uterine veins. Elsewhere the injection had lacerated the deciduous membrane, and formed deposits in the vascular part of the placenta. (Plate II.)

This important preparation which was examined by Mr. Clift, Mr. Owen, Mr. Alexander Shaw, and myself, at the College of Surgeons, and which for half a century before had been considered to prove the existence of cells in the placenta, and a communication by great arteries and veins between these and the uterus, was found when taken down and carefully inspected, to demonstrate that no such connexion exists. Mr. Owen, soon after this investigation, made further researches on the relations of the uterus and placenta, the results of which were communicated to me in the following letter, which has also been published in the Philosophical Transactions.

Lincoln's Inn Fields, 17th Nov. 1832.

My Dear Sir;

During the time you were examining the Hunterian preparation of the uterus and placenta in the Museum of the Royal College of Surgeons, your observations on the obscurity produced by the extravasated injection led me to think of some less objectionable mode of demonstrating the vascular communication between the uterus and placenta, if it existed; or of proving more satisfactorily than the appearances you pointed out in that preparation seemed to do, that there was no such communication.

"You have since afforded me the means, through the kindness of Mr. Alex. Shaw, of examining, in the manner

I wished, the anatomical relations between the placenta and uterus. This has been done by dissecting the parts under water before disturbing them, either by forcibly throwing foreign matter into the vessels, or by separating the placenta from the uterus, to observe the appearances presented by the opposed surfaces,—a proceeding which, if done in the air is liable to the objection of the possibility of having torn the vessels which were passing across, and the coats of which are acknowledged by those who maintain the existence of such vessels, to be extremely delicate.

" The mode, therefore, which was adopted to avoid these objections, was to fix under water, in an apparatus used for dissecting mollusca, &c. a section of the uterus and placenta, and, commencing the dissection from the outside, to remove successively and with care the layers of fibres, and trace the veins as they pass deeper and deeper in the substance of the uterus in their course to the deciduous membrane ; in which situation, as the thinnest pellicle of membrane is rendered distinct by being supported in the ambient fluid, I naturally hoped in this way to see the coats of the veins continued into the deciduous membrane and placenta, and to be able to preserve the appearance in a preparation, if it actually existed in nature. But in every instance, the vein, having reached the inner surface of the uterus, terminated in an open mouth on that aspect; the peripheral portion of the coat of the vein, or that next the uterus, ending in a well-defined and smooth semicircular margin, the central part adhering to, and being apparently continuous with, the decidua.

" In the course of this dissection, I observed that where the veins of different planes communicated with each other, the central portion of the parietes of the superficial vein invariably projected in a semilunar form into the deeper-

seated one; and where (as was frequently the case, and es pecially at the point of termination on the inner surface) two or even three veins communicated with a deeper-seated one at the same point, these semilunar edges decussated each other, so as to allow only a very small part of the deep-seated vein to be seen. I need not observe to you how admirably this structure is adapted to ensure the effect of arresting the current of blood through these passages, upon the contraction of the fibres with which they are every where surrounded.

" On another portion of the same uterus and placenta, (which were removed from a woman who died at about the fifth month of utero-gestation,) I commenced the examination under water by turning the placenta and deciduous membrane from the inner surface of the uterus. In this way, the small tortuous arteries that enter the deciduous membrane were readily distinguishable, though not filled with injected matter; and as it was an object to avoid unnecessary force in the process of separation, they were cut through, though they are easily torn from the decidua. But with respect to the veins, they invariably presented the same appearances as were noticed in the first dissection, terminating in open semi-circular orifices, which are closed by the apposition of the deciduous membrane and placenta. This membrane is, however, certainly thinner opposite these orifices than elsewhere; and in some places appeared to be wanting, or, adhering to the vein, was torn up with it; but in these cases the minute vessels of the placenta only appeared, and never any indication of a vascular trunk or cell commensurate with the size of the vein whose terminal aperture had been lifted up from the part.

" The preparation which accompanies this letter shows the termination of a vein on the inner surface of the uterus, and an artery of the decidua cut through, with the corresponding appearances on the surface of the placenta; also

the valvular mode in which the veins communicate together in the substance of the uterus.

"I remain, yours very truly,

"RICHARD OWEN."

In the autumn of 1832, the preparations of the gravid uterus in the Hunterian Museum at Glasgow, were examined by Dr. Nimmo, at my desire, and in none of these preparations did it appear certain that any great blood-vessels passed from the uterus into cells in the placenta; but in many, the deposits of injection causing the appearance of cells were observed evidently to be the result of extravasation.

No. 178 "is a small section of the uterus, with the veins injected green, and broken off where they were entering the placenta." The surface of the injected matter is smooth; the edges of the openings defined, and quite unlike ruptured vessels; their form in general elliptical, seeming as if they were holes cut in the side of a convolution.

No. 125. "A portion of uterus and placenta, the latter injected from uterine vessels." There is an opening which seems to be natural, corresponding to one of those in the uterus; but the majority of those whereby the injection has passed into the placenta, seem to be mere lacerations.

No. 101. "A section of uterus with veins injected black, and the injected matter protruding by irregular plugs into the cavity of the uterus." The holes are semilunar and elliptical, with defined edges, and nothing resembling the continuation of vascular tubes to be seen.

R. R. 121, is described in the printed catalogue as follows: "A small portion of placenta and uterus, where the cells of the placenta have been injected from the veins of the uterus. The veins are seen very large, entering the substance of the placenta."

Dr. Nimmo makes the following observations on this

specimen: "This preparation seems to be most in point. I would describe it differently. The cellular substance of the placenta has certainly been filled from the uterine vessels. These, however, instead of passing directly into the placenta, are distinctly seen applying their open mouths to the membrane of the placenta, where the injection in some instances stops. The membrane is thinner here than where no vessels are applied, consisting, so to describe it, of one layer, while a second layer covers all other parts. Where the injection has passed into the substance of the placenta, it has evidently been forced to the side between the layers, and found some weak point, whereby it has entered into and been diffused throughout the cellular texture of the placenta."

In order that no doubt might exist respecting the accuracy of the preceding description, I requested Mr. Broughton, still later in the autumn, carefully to re-examine the same preparations, and after having done so, he authorized me to state to the Royal Society, that Dr. Nimmo's account was perfectly correct. Dr. Burns has, however, subsequently published an account of these preparations with the view of shewing that the description which had been transmitted to me was inaccurate, and that there does exist a communication between the uterus and cells in the placenta by large blood-vessels, as Dr. Hunter supposed. Though Dr. B. was fully aware that the preparation of John Hunter which is in the Museum of the Royal College of Surgeons in London was found, when examined, to prove the very reverse of what it had previously been supposed to do; yet he did not consider it requisite before publishing his conflicting statement, to subject the preparations of William Hunter in his Museum at Glasgow to the same test, which he might readily have

* Medical Gazette, July 21, 1832, p. 503.

done, had he been desirous of discovering the truth. But even Dr. B's account does not warrant the conclusions he has drawn; nay, it strongly confirms the views I have stated. No. 21, he says, is a very important preparation. The uterus at the sixth month is injected and cut open, but the placenta is every where left adhering. *No vessels, therefore, can be seen passing from the uterus into it.* But that the red injection has entered freely and filled the cells, is proved by the colour being finely visible on the fœtal surface of the placenta. No, 124 is described as a small portion of the placenta and uterus, where the cells of the placenta have been filled from the vessels of the uterus. The fœtal portion is not injected. The placenta is detached from the uterus, and hangs down. The cells are filled with red, and among them we see cut portions of green. "*No injected vessel, indeed, is seen passing into the uterine surface of the placenta;* but there are several *bristles* put into the unfilled orifices on that surface. In both these preparations Dr. Burns admits that no vessels are seen passing from the uterus to the placenta, and he does not attempt to explain why the orifices with the bristles were not filled with injection. No. 125 is another section of the same uterus. There is an orifice of considerable size on the inner surface of the uterus, and another corresponding to it on the uterine surface of the placenta, with *a bristle* passing the one from the other. It is not said that any vessel was seen passing in this preparation; there was only a bristle inserted; and in all the other preparations it is manifest from the description, that the appearance of cells was produced by the injection, and that they were not natural cavities.

Soon after the publication of Dr. Burns' statement, I solicited permission, through him, to have these prepara-

* Medical Gazette, July 21, 1832, p. 503.

tions removed from the spirits and examined, to which he replied, "this was absolutely impossible."

The experiments of the Hunters, of Dubois, Chaussier, Beclard, Williams, and many others, prove, that if size, mercury, oil of turpentine, &c. be injected into the spermatic or hypogastric arteries of the gravid uterus, they will pass not only into the substance of the placenta, but sometimes into the blood-vessels and organs of the fœtus itself. To those observers who have adopted the views of the Hunters and later anatomists, and who neglect or refuse to examine the connexions of the uterus and placenta before they have been disturbed by the forcible injection of extraneous matters into the uterine blood-vessels, such experiments will probably be considered to demonstrate the existence of a cellular structure in the placenta, and of a free communication by great arteries and veins between these cells and the uterus. That no such communication, however, exists in nature, and that the appearances produced by injection are completely fallaceous may readily be demonstrated by an examination of the parts in the natural state under water. The numerous small tortuous blood-vessels which proceed from the uterus to the placenta, I consider to be the nutrient vessels of the placenta, and they never terminate in cells; and the uterine sinuses do not penetrate the decidua, but open into the cavity of the uterus by smooth and large valvular-like orifices in its lining membranes.

I have examined other four gravid uteri, besides the six already referred to, in the course of the last eight months, and the appearances observed in them fully confirmed the correctness of the preceding statements. Charles Millard, Esq., Demonstrator of Anatomy in the school of Webb-street, has favoured me with the following account of the dissection of a gravid uterus, which was also examined by Sir Astley Cooper, in the month of September last

" As concurrent testimony on any, even the clearest subjects, is sometimes of use, I beg to forward to you the following account of the dissection of a healthy uterus, at about the seventh month of pregnancy, which I had an opportunity of examining, through the kindness of Dr. Holroyd, of Harley-street, who obtained the specimen from the body of a woman who died of cholera. The parts were examined without any previous injection or other preparation, that every thing might be seen in its natural state. On making an incision through the anterior wall of the uterus, the attention was immediately arrested by the large size of the uterine veins, especially of those in the neighbourhood of the placenta. The right side of the anterior wall of the uterus was then carefully turned back, and with such ease as to convince me that no large vessels were torn through; the tunica decidua was now distinctly seen passing behind the placenta, and it was also observed to pass over the orifice of the fallopian tube. The other side of the uterus was then carefully examined under water, principally with a view to determine the direction and termination of the uterine veins, and the connexion that exists between the uterus and placenta. This examination completely coincides with your description. The uterine veins passed in an oblique direction, as regards the placenta, and not immediately towards it, and in no instance could they be traced into its structure, for whether they were followed from the external to the internal surface of the uterus, or in the opposite direction, they were found to present a number of large valvular openings, some of an elliptical and some of a semicircular form, situated in the sides of the veins, and having no corresponding openings on the outer surface of the placenta, but closed by the deciduous membrane. All these openings had distinct, well-defined edges, formed, apparently, by a duplicature of the lining membrane of the uterus, and

quite unlike ruptured vessels; indeed, as I have before stated, none of these veins could be followed into the placenta, even by the most careful examination. But both arteries and veins, not larger than a bristle, were readily traced from the surface of the uterus to the tunica decidua covering the uterine surface of the placenta, where they ramified very minutely. Some of these were distended by inflating the large uterine veins, but no air could be made to pass from these vessels into the substance of the placenta, although the inner membrane was distinctly raised by it. The uterus was farther connected to the placenta by a quantity of pulpy cellular membrane, which easily broke down under the finger."

"*Dean-street, Southwark,*
18*th Sept.* 1832."

The facts which have now been stated warrant, I think, the conclusion, that the human placenta does not consist of two parts, maternal and fœtal; that no cells exist in its substance; and that there is no communication between the uterus and placenta by large arteries and veins. The whole of the blood sent to the uterus by the spermatic and hypogastric arteries, except the small portion supplied to its parietes and to the membrana decidua by the inner membrane of the uterus, flows into the uterine veins or sinuses, and after circulating through them, is returned into the general circulation of the mother by the spermatic and hypogastric veins, without entering the substance of the placenta. The deciduous membrane being interposed between the umbilical vessels and the uterus, whatever changes take place in the fœtal blood must result from the indirect exposure of this fluid, as it circulates through the placenta, to the maternal blood flowing in the great uterine sinuses.

It follows, from these views of the nature of the relation

which exists between the placenta and uterus, that a flooding cannot take place during pregnancy whilst this connexion is preserved entire. It follows, likewise, from the facts now stated, that when hemorrhage occurs either in the gravid state of the uterus, or subsequent to delivery, the blood does not flow from lacerated arteries and veins passing between the uterus and placenta, but that it escapes from natural openings in the lining membrane of the uterus, which had previously been closed by the placenta.

After the separation of the placenta in natural labour, the contractions of the uterus, and the formation of clots within its cavity, and in the orifices of the uterine sinuses, are the principal means employed by nature for arresting the flow of blood. The semilunar or valvular-like edges of the vessels at their termination in the inner surface of the uterus, are admirably adapted to ensure the effect of arresting the current of blood through these passages by the contraction of the fibres with which they are every where surrounded. However excited the circulation in the uterine vessels may be, the structure of the parts is such, that flooding cannot take place from a contracted uterus after the expulsion of its contents. All the different means which have been hitherto recommended for checking the effusion of blood in uterine hemorrhage produce their effect either by exciting contraction of the uterus, and the subsequent closure of the bleeding orifices, or by promoting the coagulation of the blood itself within them.

In a Paper on Double Uterus and the Structure and Formation of the Membranes of the Human Ovum, published in the 17th volume of the Medical and Chirurgical Transactions, I have adduced facts by which I have endeavoured to demonstrate, that the fallopian tubes are open in the early months of gestation; that the ovum, being at first imbedded in the albuminous matter which at this period coats the inner surface of the uterus, may adhere by

the placenta to the fundus, body, or over the cervix uteri, and that the deciduous membrane does not form a shut sac prior to the arrival of the ovum in the cavity of the uterus. The placenta is most frequently attached to the upper and posterior part of the uterus, but in some cases it adheres to the circumference of the internal orifice, and from this peculiar situation of the placenta over the os uteri, arises that dangerous variety of flooding in the latter months of gestation, the phenomena and the treatment of which I now propose first to describe.

CHAPTER II.

ON UTERINE HEMORRHAGE WHEN THE PLACENTA HAS BEEN SITUATED OVER THE OS UTERI.

When the placenta is situated over the os uteri, the development of the cervix, which takes place in the seventh month, produces a separation between the corresponding surfaces of the uterus and placenta; in consequence of which, the orifices in the lining membrane are laid open, and the maternal blood escapes. In most cases of this description, the flooding takes place spontaneously in the seventh and eighth months of pregnancy, and cannot be referred either to bodily exertion or external violence, nor to any unusual determination of blood to the uterine organs or congestion of their vessels. The hemorrhage generally comes on suddenly when the woman is in a state of rest; and the blood continues to flow until faintness, or even syncope takes place. After an interval of several days, and sometimes not before two or three weeks, the flooding is renewed, and a still more decided effect is produced on the constitution of the mother; and if delivery be not then accomplished by art, death will take place sooner or later, from a return of hemorrhage. The first

attack of flooding seldom proves fatal, but it sometimes does so: for, in a case of advanced pregnancy which occurred several years ago in the British Lying-in Hospital, the life of the patient was at once extinguished by a single gush of blood from the uterus. I examined the body, and found only a small portion of the placenta lying detached over the os uteri.

When flooding takes place to an alarming extent in the seventh or eighth months of gestation, we ought first to ascertain, by a careful examination, whether or not the placenta be situated over the os uteri. As the successful or fatal result of the case will, in a great measure, depend on the correctness of the diagnosis, the enquiry should be conducted with so much care and circumspection as to leave no room for doubt on the subject. An ordinary examination is often insufficient to enable us to ascertain the true state of the parts, and it becomes requisite to introduce the whole hand within the vagina. The finger is then to be passed gently through the os uteri, and, if the placenta presents, it will be distinguished from coagulated blood, the only thing with which it is likely to be confounded, by its firmer, fibrous, vascular structure, and by its adhering at one part to the uterus, and being separated at another. The hemorrhage is usually renewed by the removal of coagula during this examination; and the same circumstance is observed if there are labour pains present. The reverse of this takes place when the placenta has adhered to the upper part of the uterus, the flooding invariably ceasing during each contraction of the uterus.

The most convenient time for determining whether or not the placenta be over the os uteri, is unquestionably while the blood is actually flowing, and not after the discharge has been suspended by the formation of coagula in the vagina and cervix uteri. I am fully convinced, however, that it is justifiable and proper, as soon as the patient

has recovered from the shock of the first attack, even though the hemorrhage should be renewed by the displacement of the coagula, to make the requisite examination, that we may ascertain the precise situation of the patient, and determine the proper plan of treatment.

If the parts should not then be in a condition to admit of delivery, the hemorrhage can readily be controuled by the appropriate means.

It may be laid down as a rule admitting of no exception, that where hemorrhage occurs from the placenta being situated over the os uteri, artificial delivery must be performed. In some cases, where a small portion only of the placenta lies over the os uteri, it is possible for the orifices, exposed by the detachment, to be closed by coagula, and the patient go to the full time, and be delivered safely without the assistance of art. Such a result is, however, extremely uncertain and hazardous, and ought never to alter the general rule of practice, which has now been stated. As the gradual development of the cervix takes place, separation of the placenta from the uterus to a still greater extent usually follows, and the hemorrhage is renewed until delivery is either accomplished by art, or the patient expires from the loss of blood. In one case only of flooding from the placenta being situated over the os uteri, which has come under my observation, has the woman escaped with her life without artificial delivery. When called to this patient I found the placenta in the vagina completely detached ; on removing it, a child of eight months followed, and immediately after a torrent of blood which had very nearly proved fatal.

Without waiting for the pains of labour, or the dilatation of the os uteri, the hand should be passed into the vagina, as in the ordinary operation of turning, and carried forward steadily through the os uteri in a conical form between the uterus and placenta, at the part where their

separation has previously taken place. The membranes should then be ruptured, and an inferior extremity of the child brought down into the vagina, and the infant and placenta be slowly extracted.

In no case, however, should the hand be forcibly introduced while the os uteri is rigid and undilatable. Until the os uteri becomes soft and dilatable, and this does not take place in some cases before repeated attacks of hemorrhage have been experienced, the flow of blood must be checked by the recumbent posture, cold applications to the hypogastrium and pubis, and the introduction of a large piece of soft sponge within the vagina. The plug ought never to be employed where the os uteri is soft and yielding. It is a most valuable remedy in rigid undilatable states of the os uteri, to command the flow of blood, until the operation of turning can be safely performed; but it is wholly inadmissible after the os uteri has become sufficiently dilatable to admit of delivery. If the os uteri therefore is in a condition to permit the hand to be safely introduced, the uterus should without delay be emptied of its contents, and I am fully convinced, from many cases of this description which have fallen under my observation, that the life of the patient is more frequently endangered, by delivery being performed late than early.

It was known to Paul Portal, as early as 1683, that the placenta sometimes adhered to the internal orifice of the uterus. Petit was the first author who demonstrated by dissection, that the placenta may be originally situated over the os uteri, and that its detachment gives rise to fatal flooding in the latter months of pregnancy. A woman at the full period of pregnancy, died of uterine hermorrhage after being three days in labour, and the body was opened to discover the cause of the difficulty experienced in the delivery. We found, (observes Petit,) that the placenta, which ought to have been attached to the fundus uteri,

was, on the contrary, adherent to the os uteri, and exactly closed it, except at one part where it was not adherent, and from thence it was that the hemorrhage had taken place.*

We are indebted to Levret for the first accurate account of the treatment of uterine hemorrhage, depending on the attachment of the placenta to the circumference of the cervix uteri. His dissertation on this subject, which I consider to be one of the most valuable contributions, which the pathological department of obstetrical science has ever received, was first published in the year 1753, and is entitled, " Dissertation sur la cause la plus ordinaire et cependant la moins connue des Pertes de Sang qui arrivent inopinement à quelques femmes dans les derniers tems de leur grossesses, et sur la seule et unique moyen d'y remedier efficacement."

In this memoir, Levret demonstrates: First, that the placenta is sometimes attached over the os uteri: Secondly, that in this case, uterine hemorrhage is *inevitable* in the latter months of pregnancy: Thirdly, that the most certain method of remedying this urgent accident, is to deliver the woman artificially by turning the child.

The first edition of Dr. Rigby's Essay on Uterine Hemorrhage, was published in 1776, twenty-three years after the memoir of Levret. Mr. Cross, of Norwich, in his account of the Life and Writings of Dr. Rigby, observes, with what justice the reader will judge, " that by a singular coincidence, a similar arrangement and practice were promulgated *about the same period*, by M. Levret in France." Mr. Ingleby does not once mention Levret's name when treating of Unavoidable Uterine Hemorrhage, although we are solely indebted to Levret for the discovery of every important fact relating to the causes, the symptoms, and the treatment of this variety of flooding in the latter months of gestation.

* Histoire de l'Academie Royale des Sciences, 1723.

CHAPTER III.

ON UTERINE HEMORRHAGE WHERE THE PLACENTA HAS ADHERED TO THE UPPER PART OF THE UTERUS.

A PRETERNATURAL determination of blood to the uterus, is the most frequent cause of flooding in the latter months of pregnancy, where the placenta is not situated over the os uteri. When the blood is impelled into the uterine sinuses with unusual violence, the placenta is forced from its attachment to the uterus, and the blood escaping from the openings in its inner membrane, is effused between the separated surfaces. If the blood be extravasated in small quantity only, the openings may be closed up by the formation of clots, and the functions of the placenta continue to be performed by that portion of it which had not been detached, and gestation proceed without interruption to the end of the ninth month. Where the quantity of blood effused between the uterus and placenta, is so considerable that they are separated to a large extent, uterine contractions are usually excited, which ultimately terminate in the expulsion of the child, or if the patient be not assisted, she expires from a renewal of the hemorrhage.

Hemorrhage, from the uterus, in the latter months of pregnancy, where the placenta does not adhere to the cervix, sometimes takes place suddenly and without any premonitory symptom. It is, however, in general preceded by sense of weight and uneasiness, or pain in the region of

the uterus, and other symptoms characteristic of congestion of the vessels.

When the blood escapes in small quantity only, and there are no labour pains present, and no disposition in the os uteri to dilate, and the constitutional powers of the patient are not impaired, an attempt should always be made to prevent a return of the discharge, and the occurrence of labour pains. For this purpose, nearly the same plan of treatment should be adopted as in cases of hemorrhage, from any part of the gastro-pulmonary mucous membrane. If the pulse is full and frequent, blood should be immediately drawn from the arm, the patient should be preserved in the horizontal posture, surrounded by a cool atmosphere, and cold applications made over the hypogastrium and pubis; and acetate of lead and opium, mineral acids, and other remedies, that diminish the force of the circulation, should be given internally. Injections of cold fluids into the rectum, might diminish the violence of the circulation in the blood-vessels of the pelvis, and promote the coagulation of the blood itself in those of the uterus; but injections of alum, and other astringents into the vagina, cannot reach the bleeding vessels. Having witnessed several fatal cases of uterine hemorrhage, where a small portion only of the extravasated blood escaped externally, I am persuaded that it is unsafe, in this variety of the affection, to fill the vagina with sponge, or other extraneous matters.

But where the flooding occurs profusely at first, and is renewed with violence, in spite of every effort to check it, the continuance of pregnancy to the full period cannot be expected, and it will be of no avail to take blood from the arm, and administer internal remedies, except for the purpose of controuling the discharge, and thus averting the immediate danger. Until the uterus is emptied of its contents, and its vessels are sealed up, the slightest accident may reproduce the discharge, and the patient must remain

exposed every moment to the greatest hazard. The operation of turning, which is so necessary when the placenta is over the os uteri, is not required in the cases now under consideration, and the practice first recommended by Puzos, will, in a great majority of instances, if adopted sufficiently early, prove completely successful.*

Although there should be little or no disposition in the uterus to contract and expel the child, if the flooding continues and the strength of the woman is obviously much impaired by it, the fœtal membranes should be ruptured, the liquor amnii evacuated, and the uterus roused to contraction by friction over the hypogastrium, and the dilatation of the os and cervix uteri by two fingers introduced within them. If there are labour pains there will be little difficulty in tearing the membranes with the point of the finger when they are tense; if there are no pains the best mode of perforating the membranes is to introduce a slender silver catheter through the mouth of the womb, and carry it forward till the membranes are pierced and the liquor amnii begins to escape. I have seen more than one fatal case of uterine hemorrhage, where the practice of Puzos was adopted, but I am convinced, had the membranes been ruptured before the powers of the system and of the uterus had been less impaired, the result would have been different.

When flooding takes place during the first stage of labour, the discharge of blood always ceases when the uterus contracts and returns during the intervals of the pains. Here the same practice of rupturing the membranes should immediately be had recourse to; but if the flooding should afterwards continue, and the pains become more and more feeble, delivery must be accomplished by the forceps, by embryotomy, or by turning, according to the peculiarities of the case.

* Memoires de l'Academie de la Chirurgie, tom. ii. part ii. 1743.

CHAPTER IV.

ON UTERINE HEMORRHAGE SOON AFTER THE EXPULSION OF THE PLACENTA.

When a dangerous flooding takes place after the delivery of the child, and before the placenta has been expelled, strong pressure should immediately be made over the hypogastrium in order to excite contractions of the uterus. The binder should be firmly applied around the abdomen, and several napkins folded into a square form should be interposed between the binder and the hypogastrium, that the fundus uteri may be forcibly and permanently compressed. The hand should next be introduced to remove the placenta; but it ought not to be withdrawn while the uterus is in an uncontracted state, however tranquil the state of the circulation may be. After the uterus has contracted by the firm pressure over its fundus, and the afterbirth has been withdrawn, a cloth wet with cold vinegar and water should be applied over the external parts; cold acidulated drinks should be given from time to time, and the patient preserved for two or three hours in a state of perfect rest.

But one of the most dangerous varieties of uterine hemorrhage, is that which follows the natural expulsion of the placenta, or its removal from the uterus by art. In

such cases there may be either a total want of uterine contraction, or the contractions may not be permanent, but be followed by relaxation, and the effusion of a large quantity of blood, which may either appear externally, or remain to become coagulated and distend the uterus. For several hours after delivery in some cases, this alternate relaxation and contraction of the uterus goes on, to the great hazard of the patient; and if her condition be not clearly ascertained, and the proper remedies be employed, death may speedily and unexpectedly take place.

By far the most important remedies, and those on which I place the chief reliance in these formidable attacks, are constant and powerful pressure over the fundus uteri, and the application of cold to the external parts. These means are always within reach, however sudden and impetuous the rush of blood from the uterine vessels may be, and if promptly had recourse to, they will, in a large majority of cases, prove completely successful in saving life. The abdomen should be strongly compressed with the binder and folded napkins placed under it, and, in addition, the hands of an assistant should be applied over the fundus uteri firmly to squeeze and press this organ.

At the same time a large napkin should be plunged into a pitcher of cold water, and be suddenly dashed against the external parts, and this should be repeated until the uterus contracts, and the violence of the hemorrhage is controuled. I am fully convinced, from numerous cases of flooding after the expulsion of the placenta, that this is the most efficacious mode of applying cold. This plan is far less formidable than pouring water from a height over the naked abdomen, but it is not less efficacious, and it possesses these decided advantages over the other method, that, while the application is made to the external parts, the pressure is not withdrawn from the hypogastrium; the position of the patient is not changed; the

bed is not inundated with water; and the remedy can be repeated as often, and continued as long as the urgency of the symptoms may require.

I have seldom found it necessary to introduce a plug of any kind into the vagina in these cases; but where there has been a draining of blood from the uterus, after the practice now described has been adopted, a large piece of soft sponge has been passed up, and I have had satisfactory proofs, both of its safety and efficacy in promoting the coagulation of the blood in the uterus.

More frequently recourse has been had to the introduction of a piece of smooth ice into the vagnia, or to the application of a number of pieces of ice enclosed in a bladder, to the pubis and external parts. Great advantage has also appeared to result from giving the patient to drink at short intervals small quantities of iced water. In a few cases the ergot of rye has been adminstered both before and after the expulsion of the placenta, but invariably without any sensible benefit, and many other cases have been related to me where it appears to have been equally inefficient in exciting the uterine contractions.

Other means besides those now pointed out have been proposed by different writers in cases of flooding after the expulsion of the placenta. Some have strongly recommended the introduction of the hand within the uterus, for the purpose of removing coagula formed in its cavity; but this is never necessary, as the coagula are readily expelled if a proper degree of pressure is applied over the fundus uteri.

I am convinced, from repeated observation, that the practice so often employed of passing the hand into the uterus, and pressing its inner surface with the closed fist round and round to excite it to contract, is not only often ineffectual for this purpose in the worst cases of flooding, but that it often gives rise to subsequent fatal inflamma-

tion of the deep-seated structures of the uterus. I have repeatedly passed the hand into the uterus to produce contraction, but it has refused to obey the stimulus of the hand; it has remained like a soft flaccid bag—more like a piece of intestine than uterus, and the blood has continued to pour down the arm, until the hand has been withdrawn and more efficient remedies employed. Leroux has stated the same fact in the following passage;—"Where the os uteri is contracted, the means indicated by Levret are very efficacious, and remove the hemorrhage as if by a charm. But it is not so in a state of complete inertia of the uterus: often it is widely dilated, and offers no resistance to the introduction of the hand. The introduction even of the whole hand will excite little sensation; and the woman will promptly perish from the hemorrhage if other means more active and certain are not employed to repress it." The tampon, or plug, is the remedy Leroux recommends in cases of flooding after delivery, and he affirms that it will often succeed in stopping the flow of blood when all other means fail. Dr. Dewees observes that he "can with most perfect truth declare that he has not found it necessary to introduce the hand for the purpose of stopping an hemorrhage after the expulsion of the placenta, for more than the last five-and-thirty years, and that he regards the practice as always frightful, and oftentimes unnecessary and pernicious."

Whoever it was who first recommended the introduction of the hand into the uterus to compress the aorta, he must have been alike ignorant of the structure of the gravid uterus, and of the process employed by nature to suppress uterine hemorrhage. The hand, if applied to compress the aorta through the uterus, would be placed over it, below the origin of the spermatic arteries, which supply that part of the uterus where the placenta usually adheres. Pressure over the lower part of the aorta might prevent the

flow of blood into the iliac arteries, but it could not fail to increase the hemorrhage, by forcing the blood still more strongly into the vessels from which it was flowing in the upper part of the uterus.

In a chapter of Dr. Gooch's work on a peculiar form of hemorrhage from the uterus, he has recommended the hand to be passed into the uterus after the expulsion of the placenta, for the purpose of compressing, like a tourniquet, between the hand in the uterus and the other hand over the hypogastrium, the part of the uterus where the placenta was attached, and from which the blood is flowing. He observes—

"My belief is, that where hemorrhage occurs after the removal of the placenta; the quickest way to stop it, is to introduce the left-hand closed within the uterus, apply the right-hand open to the outside of the abdomen, and then make the two to compress the part where the placenta was attached, and from which the blood is flowing. When the hand is introduced merely as a stimulant, there is an interval of time between its arrival within the uterus and the secure contraction of this organ; during which, much blood is often lost. By directing the hand *to the very vessels from which it issues* and compressing them as I have described this quantity is saved. If I may judge by my feeling, the blood stops, in a great degree, even before the uterus contracts; the hand acts first as *a tourniquet*, then as a *stimulant*. It is true we cannot tell, with certainty, where the placenta was attached, and consequently where the pressure should be applied, but as it is generally attached to or near the fundus, if the pressure be directed there, it will generally be right. Besides, after the child is born, it is often several minutes before the placenta separates and descends; if during this interval, we pass up the finger along the cord and observe, at its entrance into the uterus, whether it turn towards the front, the back, the

right or lift side, or straight up to the fundus, we shall form a tolerably exact idea of the spot to which the placenta has been attached in this individual case." p. 341.

If the reader will recollect that the observations of Dr. G. refer solely to the uterine hemorrhage, which takes place after the expulsion of the placenta, he must at once perceive the inconsistency of the practice. The hand is to be carried into the cavity of the uterus, *after the placenta has been expelled,* and applied like a "tourniquet," or more properly, like a tenaculum to the great bleeding vessels in the lining membrane; and to discover this spot at a time *when there is no placenta within the uterus,* Dr. Gooch directs us to pass up the finger along the cord, and observe, at its entrance into the uterus, whether it turn towards the front, the back, the right or left side, or straight up to the fundus uteri."

Dr. Gooch, as I have already observed, does not appear to have known that the placenta is most frequently attached to the posterior and lateral parts of the fundus and body of the uterus, and that his "tourniquet," if applied as he has directed, would compress only the anterior part of the parietes of the uterus, where there are no bleeding vessels, and leave the great openings in the posterior surface entirely exposed. Besides, the "tourniquet" he recommends would require to be more than twice the natural size to cover the vessels in the lining membrane of the uterus, which are exposed by the detachment of the placenta. I have noticed this serious practical error, as I am not aware that it has been pointed out by any English writer, and on more than one occasion I have witnessed the pernicious consequences of adopting Dr. Gooch's practice.

From a single case of uterine hemorrhage, in which there was nothing peculiar, Dr. Gooch has maintained, in opposition to the best established principles of obstetrical science, principle which are founded on the experience

of the last century, that if the circulation be excited, dangerous flooding may take place where the uterus is contracted in the ordinary degree, and that it is justifiable where the circulation is not excited, to separate the placenta before the uterus is contracted. It is evident from the history of the case, though the details of it are not minutely given, that the uterus was in a state of relaxation when the flooding occurred, and that the flow of blood was arrested, by the employment of those means which can only act, by stimulating the uterus to contraction. "The uterus which had become firm and distinct, he observes, became so soft, that it could no longer be felt. As it was my duty no longer to rely on the remedy I was using, I drew out the handkerchiefs, and applied my hands as I have described with the most immediate and happy effect; the bleeding stopped, my patient came to herself, and whilst she complained of pain, *I felt the uterus contracting;* here was an end of the hemorrhage and the alarm." p. 341.

"From an attentive perusal of Dr. Gooch's chapter on a peculiar form of Uterine Hemorrhage" (observes one of the most learned and experienced physicians of the present time), "we are led to the conclusions,—First, that in the cases he has described, there was no unusual circumstance connected with the flooding, to entitle it to be called 'peculiar.' Second, that an attempt at originality, misled him in his practical means, as they were neither the best that could have been devised, nor the most happily executed. Thirdly, that we cannot perceive in the histories of the several cases the slightest deviations from the ordinary uterine hemorrhage, if we except the active condition of the circulation, which *perhaps* may have produced the indisposition to contract in a uterus, in every other respect healthy. Fourthly, that in each instance the hemorrhage was arrested by the agents generally employed for this purpose. Fiftly, in attempting something *new*,

he had been made to overlook every thing that was *old* and *common;* or rather to view every thing that was *old* and *common* in a new light, and this without a profitable end, even perhaps with dangerous innovation."*

* The American Journal of the Medical Sciences, No. xvi. p. 436.

Fig. 2.

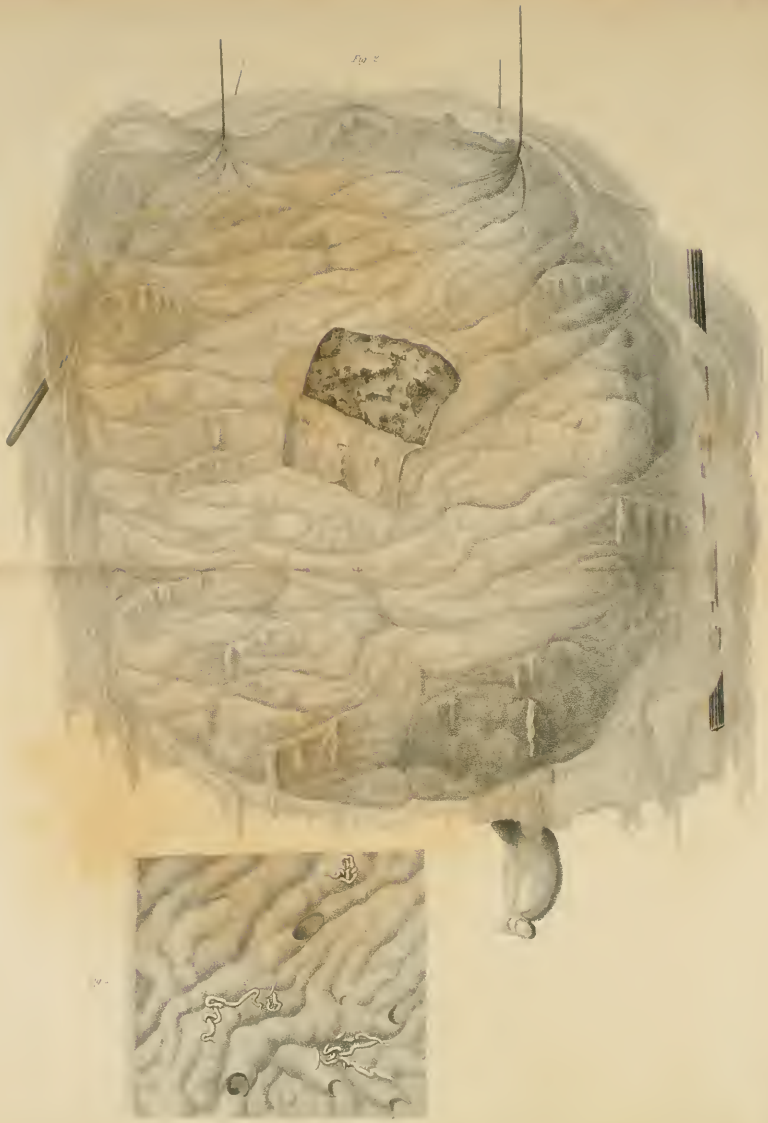
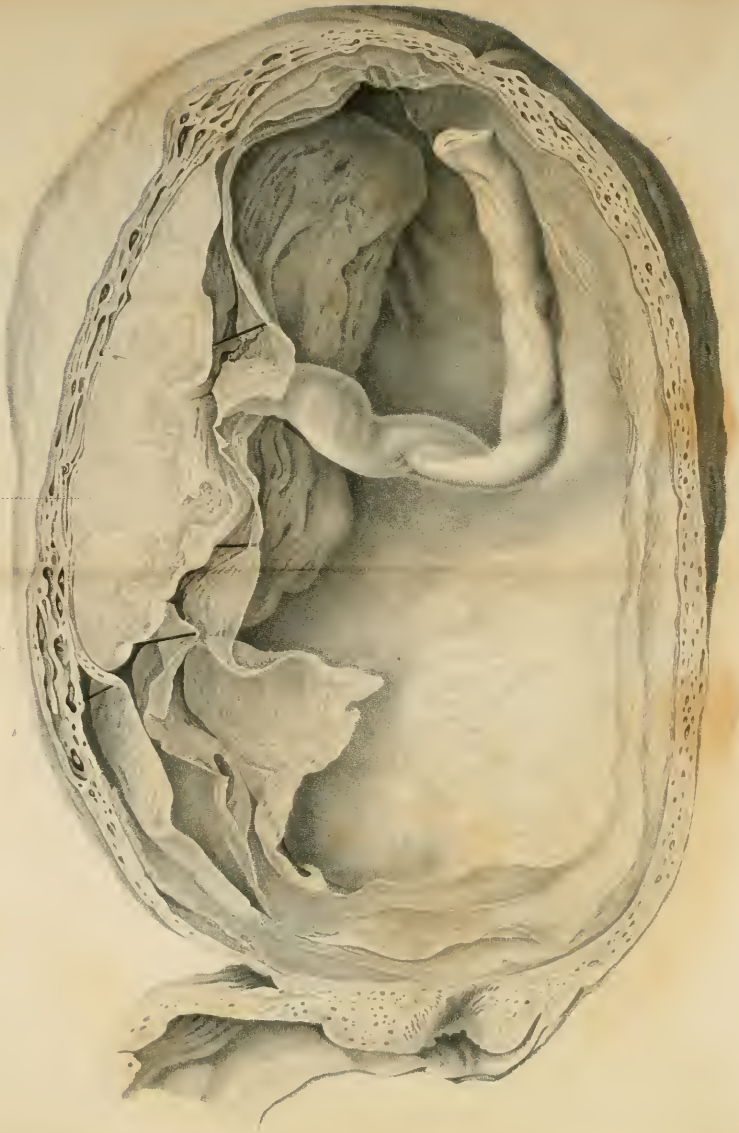


Fig. 1.


d
a
b

EXPLANATION OF THE PLATES.

PLATE I.

Fig. I.—Represents the natural openings in the inner membrane of the Uterus, where the Placenta had adhered. In uterine hemorrhage, the blood flows from these openings.

Fig. II.—A view of the Uterine Surface of the Placenta, covered by the Membrana Decidua, a portion of which has been dissected back, so as to expose the vessels which form its substance. No openings are visible in this membrane corresponding with those in the lining membrane of the Uterus.

PLATE II.

A Section of the Gravid Uterus, Placenta, and Fœtal Membranes.

a. Uterine Sinuses injected.

b. The Membrana Decidua passing between the Uterus and Placenta.

c. The Chorion and Amnion passing over the Fœtal Surface of the Placenta.

d. The Vessels which compose the Placenta.

e. The Umbilical Chord.

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